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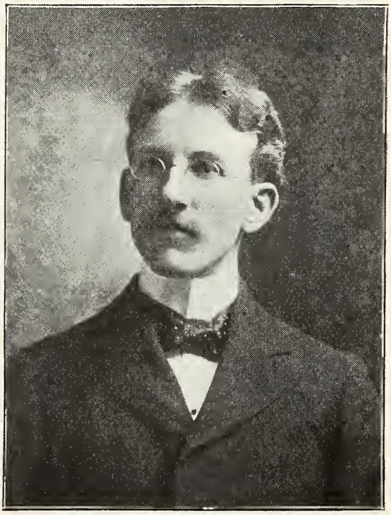

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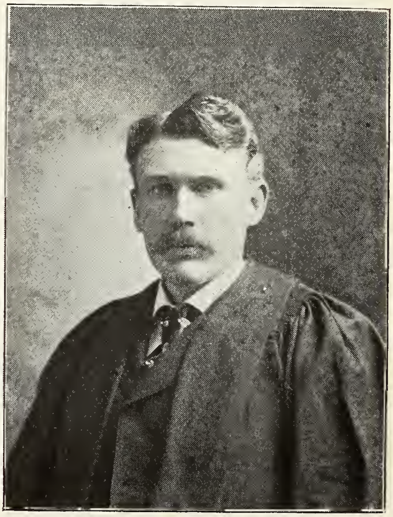

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THE DEVELOPMENT OF MEDICINE.

ADDRESS INTRODUCTORY TO THE FIFTY-FIFTH ANNUAL COURSE IN RUSH MEDICAL COLLEGE.

BY LUDVIG HEKTOEN, M. D.
Professor of Morbid Anatomy.

It is my pleasant duty as well as high honor to begin the fifty-fifth yearly course in Rush Medical College with the customary opening address.

In the first place let me welcome our old students and friends on their return to their studies after, I trust, a pleasant and strengthening holiday. May your work during the coming year be gainful and progressive so that you feel content and fully aware of a firm and true growth in medical learning!

To those who now for the first time sit on the chairs of this, our city and country, ancient school, I have to say that the Faculty naturally look upon you as objects of special care. Your class is the infant in the great Rush family and, like in any good family, it is the trust as well as the purpose of the older members to see to it that your first days in the new surroundings may be pleasant and light. You begin your careers as medical students under the most favorable circumstances. The advantages and opportunities now offered are equal to, and in some respects better than the best hopes of those who have aided and watched the growth of medical education in this country! Never has the machinery of this great institution been more complete or worked more smoothly than at the present moment! And I salute you welcome into our household!

Students of medicine are students of biology in the broadest sense. Our object is to master the principles of life in disease. The study of life in disease is a constant scrutiny of vital phenomena because the manifestations of disease are manifestations of life under abnormal conditions. The process called life is for us secret. But the craving for knowledge will give the human mind no peace so long as the essence of organic nature remains unknown.

The study of disease was begun in the dawn of civilization; the history of medicine is inseparably connected with the history of civilization. Medicine may be said to have developed more or less continuously for at least twenty-five centuries. The science of medicine has outlived the changes of time and of place and has given each succeeding generation the same problem for study, namely disease. The mission of the physician has been the same, namely healing of disease. One may choose to see in this constant growth of the science and art of healing, a strong evidence of the tendency to, and the efforts at, self-preservation characteristic of all living organisms, even the simplest. Biology teaches that the defense of the organism against harmful agencies is undertaken by various protective arrangements and intricate cellular mechanisms that may be studied throughout the whole range of animal life, and in man this attempt at resistance has spread to the nervous apparatus that underlies the psychical functions which have developed a complete and complex science for the defence of the body against hostile influences. Medicine may therefore be said to be a biological science in a double sense.

Naturally the now multifarious science of medicine has a most interesting and instructive evolutional history. It is, I take it, of some importance to this gathering of students to be reminded now, at the beginning of their studies, of the chief events in the development of medicine that have exercised a decisive influence upon the growth of the science in general, that have largely determined the present scope of medical study and the main direction of the work of the investigators.

Hippocrates, born 460 years B. C., has been called "The Father of Medicine" because his medical writings are the oldest of their kind extant and it cannot well be denied that they have also had more influence on the development of medicine than the writings of any other single man. There is found in the works of Hippocrates a true scientific spirit, free from the blighting action of preconceived notions, which finds the only true source of knowledge of natural phenomena to be the study of nature. In the first of his "Aphorisms" he expresses the following well-known and noble sentiment in regard to the inborn difficulties connected with scientific investigation: "Life is short; art is long; opportunity fleeting; experience fallacious; judgment difficult." As a foundation for the study of medicine he placed the study of the living body and of the natural functions in health. It follows that he paid particular attention to the general condition of the patient; in fact, he laid so much stress upon the general condition that it led to neglect of the local changes. Disease was regarded as a general process that begins its development and subsides independently of any single organ or tissue, the form and the localization being secondary and accidental in their nature. Disease was ascribed to changes in, and abnormal admixtures of, the fluids, or humors, of the body due to various causes. In those days and for many subsequent centuries the so-called cardinal humors of the body were held to be the seat of all diseases, the mid-point of all morbid conditions. This is the so-called humoral pathology, or conception of the nature of disease which so long survived and which, later, was permitted to become dogmatic and, on this account, probably hindered the free growth of medicine as a science. The external and evident signs of disturbed function—the symptoms of disease—formed the essential objects of study. But the most critical observation of the external manifestations of disease on the sick-bed and the shrewdest conjectures and speculations could not supply positive knowledge of the real nature of disease. As long as the state of the body and its organs in health was a hidden book, as long as the science of physiology did not exist, the conceptions of disease, brought forward by the fathers of medicine, could not but be imperfect and more or less unreal as compared with later and recent developments. Subsequently the doctrines of Hippocrates and his time were collected into a more or less elaborate system by Galen, A. D. 131–200. Celsus and other earlier and later ancient writers added nothing new, and the medicine of the monks was the humoral pathology of the old which had become fettered and definitively fixed in dogmas and therefore incapable of development.

But the time came when dogmatic medicine had to give way to one founded on the direct and discerning study of the natural sciences. This transformation occurred in Italy and it was the study of anatomy that gave the impulse to this desirable change. The opportunity to study human anatomy was not granted the ancient physicians. Only for a short time following the death of Alexander the Great when Egypt fell into the hands of the Ptolemies, who were ardent patrons of art and science, was it permitted or customary to examine human bodies. The only anatomical knowledge possessed by Galen and his successors was derived from observations on animals. Any necessity for the knowledge that could be derived from dissection was not felt as long as the physicians in general placed their full faith in the absolute infallibility of the teachings handed down by Galen. And yet there must have been some aggressive desire expressed for opportunity, or some distasteful efforts made, to examine the human body, stimulated no doubt by the disclosures caused by wounds and accidents, because the church positively prohibited post-mortem examinations by formal edicts. Interdictions are not issued against acts that do not give offense.

But in the beginning of the fourteenth century—the exact date is not known—permission was granted Mondino, in Bologna, to take to pieces human bodies and demonstrate them. In the anatomy which Mondino wrote it is stated that in January 1315, he dissected the body of a pregnant woman. From this time the Italian universities presented advantages for anatomical studies that other medieval seats of learning could not offer and there began a large influx from northern countries, of students thirsty for actual knowledge. One of these was Andreas Vesalius, born in Belgium, of low German parents, in 1514. He studied medicine in Paris, but the anatomical instruction was limited to commentaries on Galen's writings; when an occasional dissection of a human or animal body occurred it was done by a barber and not by the professor or his adjuncts, far less by the students. The genius of Vesalius was shocked by this method of instruction and, subsequently, when in the course of a few years he became professor of anatomy in Padua, he gave the old methods a thorough overhauling, introduced and practiced the direct, natural study of anatomy.

In 1543 Vesalius published his great work "De Corpori's Humani Fabrica;" this classical work met with much opposition and severe criticism; it was cited by his former teacher Sylvius in Paris as a model of ignorance and as an example of the most dangerous and foolhardy godlessness. But to Vesalius belongs the credit of forever establishing the right of anatomy as a separate science of fundamental importance. He has been called "The Reformer of Medicine" because the influence that followed his work and his writings may be said to have been the most important factor in the liberation of medicine from the oppression of the belief in the infallibility of the Galenic teachings to which it had been subjected for fifteen hundred years; the way once more led to the free and immediate study and observation of nature unhampered by dogmas and preconceived notions.

It remained for William Harvey to gain the decisive victory in the struggle of medicine for emancipation from the dogma of infallible doctrine. Born in England in 1578, he studied medicine in Padua and under the direction of Fabricius ab Aquapendente and devoted himself especially to the anatomy of the blood vessels and the heart. Returning to London he became lecturer on anatomy and physiology at the College of Physicians in 1615; these lectures became epoch-making; in the first course, which began in April, 1616, he taught the circulation of the blood throughout the animal body, but not before 1628 was this new teaching published in printed form under the title of "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus." This work marks the final overthrow of dogmatism in scientific medicine, the introduction of the inductive method of investigation, of experimental observation. The science of physiology was founded; in place of the four humors came the blood—the "humor cardinalis." This is the first time in the history of biology that we find the functions of a mechanism, touching the very secrets of life, fully explained from beginning to end according to the only true method, namely experiment and observation.

Harvey was not content with studying the circulation in a few animals; with a comprehensive sagacity he extended his studies to the members of the different species, old and young, and gathered the richest and most valuable material of observations and experiments that ever physiologist and anatomist could have; having thus built the foundation, he calmly announced his new teaching in such masterly form of statement and so perfectly verified that two hundred and fifty years of constant investigation have not altered or added anything essential.

Following Harvey came Malpighi, of Bologna, the founder of microscopic anatomy, who, with the aid of the recently invented microscope, demonstrated the capillary circulation, and, in 1651, Olas Rubbeck, in Upsala, discovered the lymphatic circulation. But none of these pioneers in scientific investigation attempted to apply the results of pure anatomical study or of experimental physiology to the explanation of the phenomena of disease, although Harvey clearly indicated the direction in which the further investigation of the organs in respect to disease should go. The old conception that disease was always something general still persisted, and it was now thought that the blood was the mid-point of all the essential changes. In place of the old humoral pathology there came a hemato-pathology, or blood pathology. Even Hermann Bœrhaave, "the Great," the most celebrated physician of the eighteenth century and the founder of systematic clinical, bedside instruction and study, only so far turned away from the beaten track that he regarded the local processes of disease as local disturbances of the circulation.

At this time fell the labors of Giovanni Battista Morgagni, who was born in Forli, Italy, 1682. When 16 years old he entered the university at Bologna and came under the immediate influence of Valsalva and Malpighi; his fame spread rapidly and in 1711 the Republic of Venice called him as professor of practical medicine, but he was soon transferred to the chair formerly occupied by Vesalius in Padua. His renown and popularity as a teacher of anatomy extended far and wide and his lecture-room soon became too small to hold the students who flocked to hear him.

When Morgagni died in 1771, 89 years old, he left behind him the principal fruits of his nearly seventy years of constant scientific labor, in five books entitled "De Sedibus et Causis Morborum per Anatomen Indagatis." Note the title of this classical work! The location and the causes of disease as revealed by dissection! Diseases have finally received "a local habitation;" disease is no longer of necessity due to changes in the humors, or in the blood, but it is clearly and definitely announced upon the very title page that the diseases are situated in the solid tissues wherein they produce material changes of structure that can be recognized by means of anatomical investigation. Humoral or blood pathology gives way to an anatomical pathology; henceforth the conception that disease is due to changes in the structure of the tissues, produced by various causes, holds sway and dictates the course of the researches. Morgagni fastened the attention of the students and investigators to the local seat of disease; the five books contain the sum and substance of all that was at that time known concerning the structural or anatomical changes produced by disease; he also applied the conclusions derived from the study of the morbid changes to the practical diagnosis and treatment of disease; in other words, Morgagni made the study of the morbid changes in the tissues and organs of the body the foundation for practical medicine; he is the father of the science now known as morbid anatomy. Morgagni's conception and systematic demonstration of the local changes, the anatomical substratum, of disease, has ever since furnished the basis for the innumerable investigations into the nature, the causes, and the diagnosis of disease that have borne such rich fruit. As it has become more and more clearly demonstrated that the majority of diseases are connected with local changes in the structure in some part or other of the body so has local or direct treatment received wider and wider application in practical medicine and surgery. The conception of the "sedes morborum," or der "anatomische gedanke"* as Virchow pregnantly expresses the idea, has virtually conquered the whole field of medicine.

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*Morgagni und der anatomische Gedanke, Rede gehalten auf dem XI internationaem Medicinischen Congress zu Rome, Berlin. 1894.

(To be Concluded.)

LUSCHKA'S TONSIL.*

BY A. L. CRAIG, M. D., ALEDO, ILLINOIS.

Adenomata. Luschka's tonsil, or the third or pharyngeal tonsil, is an enlargement or hypertrophy of the normal glandular tissue found in the vault of the pharynx and which has usually been described under the term of adenoid vegetations.

This condition may be defined as a true hypertrophy of the normal lymphoid structures found in the pharyngeal vault and whose existence has been recognized since the days of William Hunter. The fact that this condition is not at all infrequently met with and not recognized or if recognized is passed over without appreciating the true pathological significance attaching to the presence of such adventitious growths, leads me to present this subject.

The hypertrophied tonsil is the analogue of the faucial tonsil and the disease is essentially one of childhood, developing frequently in infancy and probably not infrequently being congenital.

Bosworth says "the predisposing cause of the disease lies in that general predisposition by which in young children a morbid process develops and has its highest activity in the epithelial and lymphatic structures which disappear at puberty and changes to a tendency to activity in connective tissue structures."

How far any general dyscrasia, such as scrofula, syphilis, or tuberculosis may predispose to this disease is not generally understood. In the great majority of cases the probability is that the cause of these growths is simply a tendency to hypertrophy as the result of inflammatory changes which characterize the lining membrane of the upper air-passages and their appendages under the stimulus of repeated colds.

It occurs more frequently in children than adults, for the same reason that all glandular structures in children are more prone to take on morbid changes.

Frequently this hypertrophy is noticed for the first time after the patient has had an eruptive fever which may have proved the starting point that resulted in this change or stimulated into a renewed activity an already existing growth in this region. It doubtless is hereditary in some instances.

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*Read by Title at the meeting of the Rush Medical College Alumni Association, May 25, 1897.

The prominent and most troublesome symptom due to this hypertrophy is the excessive discharge of mucus or muco-pus, the secretory functions of the glands being much increased, especially when suffering from the effects of present or recent congestion due to cold. The symptom, which to me is the most prominent, perhaps, is the oral respiration and ever-open mouth which gives rise to an expression of face that is peculiar to the presence of Luschka's tonsil. Oral respiration may be caused by nasal obstruction due to the presence of nasal polypi, posterior hypertrophy of the turbinate bodies or the presence of foreign impacted bodies, but the peculiar vacant stare and mouth-breathing are symptoms almost pathognomonic of hypertrophy of the pharyngeal tonsil.

The voice is changed, has a nasal quality and has lost its full nasal resonance because the vault of the pharynx is more or less filled up and is what Myer calls a "dead voice." The hearing is apt to be more or less imperfect because of the hypertrophied tissues impinging on or lapping over the Eustachian orifices.

The pharyngeal gland being made up largely of connective tissue and blood-vessels is very susceptible to any exciting cause and these structures are, therefore, the site of not only a chronic inflammation but are prone to take on active inflammation when cold is taken or the subject is undergoing an eruptive fever.

Nasal respiration which may be partial but difficult is oftentimes rendered impossible when suffering from some exciting cause.

Sleep is disturbed; the child snoring and restless, nervous, suffers from headache, loss of appetite and impaired health. Occasionally, as the result of long continued labored inspiration, we have some deformity of the chest—a prominence of the sternum and flatness of the infraclavicular region.

On account of the absence of the natural current of air through the nares, and consequent diminished air pressure, the nasal cavities as a rule become contracted, and for the same reason the arch of the palate is found to be very high and narrow.

A diagnosis of the enlargement of the pharyngeal tonsil should not be one of difficulty as the only conditions likely to be mistaken for adenoids are polypi, hypertrophy of the posterior ends of the turbinate bodies and impacted foreign bodies. All these conditions may cause varying degrees of nasal obstructions and oral respiration.

Polypi are rarely found in childhood, adenoids nearly always in early life.

If anterior rhinoscopy be employed, the presence of polypi, mucus or fibrous, may be determined. Foreign impacted bodies may cause nasal obstruction but anterior rhinoscopy and the use of the probes will reveal them if present and embeded in the tissues.

Posterior hypertrophy is rare in childhood and may be excluded. In young children it is usually impossible to use the mirror and we must be guided in our diagnosis by the mouth-breathing, snoring, restlessness at night, the peculiar facial expression, and the impression imparted to the finger when passed into the pharyngeal vault.

Adenoid tissue will present to the finger a round, smooth, globular mass more or less filling up the vault, or a mass soft and irregular and breaking down on the slightest touch of the surgeon's finger.

Various methods of treatment are resorted to for the removal of these growths. Chromic acid is frequently employed but must be most carefully carried to the vault of the pharynx by means of a curved applicator. Sometimes they are destroyed by means of the galvanocautery. In either case these methods require a number of sittings and the parts should be thoroughly anesthetized by cocain.

The most popular and approved method of removal is by the use of cutting-forceps or with curettes. Some operators, notably Lenox Brown, frequently use the finger alone. Never do this operation without the use of a general anesthetic, preferably chloroform, and in my judgment the anesthesia should be quite profound as you cannot employ it with satisfaction after the operation has once begun and hemorrhage is copious. Because of the difficult inspiration the use of an anesthetic is attended with some danger and it should be given very carefully.

In using the curette it should be passed up behind the soft palate to the very vault of the pharynx and with one sweep downward the greater part of the growth may be carried away, while the remaining portion may be removed by the finger.

I prefer Lowenthal's forceps or some modification of it.

In preparing the patient for operation I place him in the position as adopted and practiced by Prof. E. Fletcher Ingals some years ago. Place the patient on the side with the lower arm drawn back and from under the body, slightly turning the patient on his chest, the head drawn to the edge of the table and face turned towards the floor with head below the level, that the blood which oftentimes flows very freely may escape through the nose and mouth and not pass down into the larynx and stomach.

Introduce a gag and first remove the tonsils if enlarged, and they are generally hypertrophied. Various retractors are used. I use no retractor excepting my left index-finger. Besides the finger acting as a retractor it is the very best protector of the Eustachian orifices while using the forceps or curette.

Finally, it may be necessary to employ the nasal forceps to clear out the posterior nares, or the finger to completely remove the adenoid tissue clinging to the posterior pharyngeal wall. The hemorrhage may be very free during the operation but usually ceases with the complete removal of the adenoid tissue.

A great many children suffer, because of the presence of these growths, from insufficient air, are pale, anemic, listless, illy developed, and their hearing permanently impaired and perhaps have a stubborn purulent otitis media.

It is to be hoped that in the very near future this condition will be more generally recognized and the necessity for surgical treatment more fully appreciated than now.

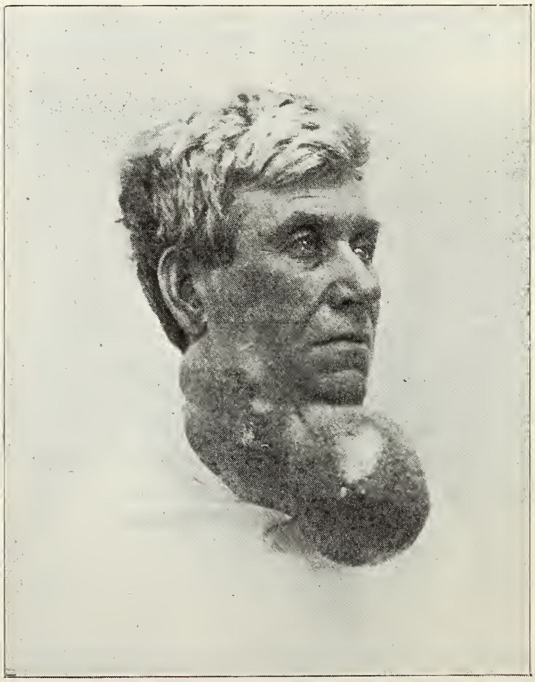
So far as my own experience goes it is certainly one of the diseases most amenable to treatment and the results of the operation uniformly satisfactory to a high degree, alike to friends and physician, because of the marked immediate benefit the patient derives from a thorough operation. In a small proportion of cases the growth returns.

PROFESSOR HAMILTON'S SATURDAY CLINICS,

Held at Rush Medical College, Sept. 25, 1897.

CHONDROMA OF THE NECK, WITH DEGENERATION.

We have here a man with an enormous tumor of the chin and the neck. The tumor which has a solid and a semifluid portion, does not seem to be connected with the bone, although below the ear it is remarkably solid and extends quite across the throat and below the chin. At this point there seems to be a good deal of fluid in it. I infer from an examination of the tumor that we have here to deal with a chondroma. Nearly thirty years have elapsed since the first appearance of the tumor which has had a continuous and steady growth. The absence of any constitutional symptoms, and of any infection of the glands, would indicate that this is a non-malignant tumor.



We shall now proceed with the operation. First, I shall evacuate the cystic portion, in order to give as much room as possible for the remainder of the operation and then I shall make an incision through the skin across the prominent portion, and I shall expect to find the tumor encapsulated throughout its whole extent. Some difficulty may, however, be encountered in its removal, and it is of course possible that it may be necessary to divide it and remove it by sections. [This portion of the tumor was then incised.]

I find the incision draws out a semifluid, colloid mass that is quite thick and would seem to indicate that degenerative process which is termed colloid degeneration—a form in which a chondroma not infrequently terminates. [Nearly a quart of brownish-yellow, jelly-like fluid was pressed out of the incision.]

The solid portion of the tumor now remains to be dealt with. Usually in these enormous tumors, when you get an end or projecting corner free, it is not so difficult to complete the operation—the start is the most difficult part of the operation.

Having now freed the external border from its attachments I now turn the tumor over so as to reach the posterior surface. [The cartilaginous portion of the tumor was then raised up.]

It now remains to take out the soft portion, which we shall do by using the tumor itself as a handle and then getting at the soft portion from the other side of the neck. In order to prevent hemorrhage, we shall pack with gauze the space from which the prolongations of the hard portion were removed. [The sac of the cystic portion was then dissected out.]

It now remains to close the vessels by ligating those on which the forceps were applied, and if any remnants of the tumor are still visible they should be removed.

We shall now close the wound with silkworm gut sutures. The patient lost some blood in the operation, but he breathes much better. A benignant tumor of this kind we do not expect to recur.

ABDOMINAL EXAMINATION.

We have a case here for diagnosis. The woman is a German, 47 years of age, and living in this city. She is married and has had eight children. Except for the purpose of record, it is hardly necessary to ask the patient if she has had children, because the cicatrices of pregnancy are so distinct that there can be no question as to that. The patient states that she is constipated and has to use a syringe in order to have a movement of the bowels. The swelling is just over the brim of the pelvis and a little above it.

Such a patient as this should be put in the hospital for a few days, and we should try colonic flushings. The bowels should be thoroughly emptied, and in order to do that we must have the patient in the hospital. The hips must be raised, and a large quantity, say one-half to one gallon, of warm water, injected once or twice a day, so that the entire colon tract is thoroughly cleaned out. To palpate the kidney, I ask the patient to bend forward. I press the fingers of one hand deeply in the lumbar region; with the other hand I press deeply backward just below the twelfth rib; the normal kidney can then be felt. When the bowels are once emptied, then we inflate them with air, and by percussion the resonant or tympanitic note gives us, with accuracy, the location of the intestines Then we may easily locate the solid viscera, and any neoplasm. Instead of the air-bag and tube, I think a bicycle pump will serve the purpose very well.

It is not always a question of five minutes or even five hours to make an exact diagnosis in these obscure cases. Sometimes you cannot make a diagnosis with accuracy until every precaution to prepare the patient for examination has been taken. I now make a bimanual examination. I place two fingers high up in the vagina. I press them strongly upward. I place my other hand on the iliac fossa, and try to bring the two in touch, first on one side then on the other. Should there be an ovarian tumor or fibroid of the uterus it can thus be easily mapped out. In this case, as the result is so far negative I do not know what is the matter with the patient, but I have my opinion as to what it is not. The patient must now have the urine examined to determine the state of the kidneys.

INGUINAL HERNIA—INCOMPLETE.

We have here a man with a hernia in the inguinal region. The tumor causes a distinct impulse on coughing. I have given considerable attention to these cases of hernia, both in the clinics and otherwise, and I remember on one occasion, as a witness on the stand in a personal damage suit, the question was asked if a complete scrotal hernia could be produced by a single injury (as in the case we have here) as by straining, lifting and the like. I answered that it was impossible to produce a complete hernia in that way, that it commenced as a bubonocele and *gradually* developed. Two surgeons got on the stand and swore that a hernia could be produced in that way I do not believe the statement.

In the case before us I have no doubt as to the diagnosis and recommend that the man come into the hospital to be operated on. He is a young man with most of his life before him. A truss sometimes fits and retains a hernia, sometimes it does not, and sometimes it is difficult to wear at all. I always recommend such a patient as this to undergo an operation. No operation in surgery that I know of is attended with such good results as that for radical cure of hernia, and the mortality is practically nothing. The operation I adopt is a modified Bassini such as you will find in Moullin and other text-books. We have such frequent opportunity to demonstrate the operation in the Rush clinics that I shall not at this time stop to describe the operation.

ANKYLOSIS OF ELBOW.

This little fellow some months ago had a fracture at the lower end of the humerus. The external and upper condyles were separated by longitudinal fracture, and the external condyle had slipped downward into the joint and there become attached. This is called an intercondyloid fracture. At the same time the head of the radius was broken loose from its attachment, constituting a dislocation. The boy came into the clinic with an entirely stiff arm bent at an obtuse angle. I made an incision and removed the fractured condyle * * * as it would be impossible for it to unite with the main shaft. The stiffness in the arm has not been entirely removed, and I doubt if it ever will be. * * * The boy understands that he must come here often and be placed under an anesthetic, and if possible have the arm forcibly brought into its proper position, and that to a certain extent he will regain the use of the arm. So far as the radius is concerned, so long as the head of the radius does not interfere with flexion we have a right to expect that he will have a very considerable freedom of use of the arm.

JACKSONIAN EPILEPSY.

We have here a patient on whom trephine was performed for traumatic or Jacksonian epilepsy. The only place remaining unhealed is the portion of the wound where a drainage was inserted. Union has taken place at the edges of the osteoplastic flap.

He has had no convulsions during this week, but that is no evidence that they will not return sooner or later.

Always bear in mind that these cases are to be prevented at the time of the original injury, by making the operation then, and not waiting until the epileptic convulsions are fairly established and the *habit* of system a fixed one.

PHYSIOLOGY OF GLANDS AND SECRETIONS.

By Prof. J. A. Wesener, U. S.

Translated from the "*Centralblatt fur Physiologie*" *Vienna and Berlin.*

Is hydrochloric acid secreted by the mucous membrane of the stomach?

The author has taken the trouble to investigate the statements of Faulkner, which infer that the HCl is not the original production of the stomach wall, but results from the action of lactic acid on sodium chloride, both of which substances are usually present in food. And indeed a mixture of sodium chloride and organic acid gave the typical HCl reaction with Günzburg's reagent after the substances had been evaporated to dryness. (With the use of Boas's reagent the HCl reaction does not take place because the sugar contained in this reagent protects the sodium chloride from being split up by the organic acids.) The inaccuracy of the application of this experiment to the occurrences within the human stomach, the author tried to prove by the following heroic attempt: In three persons (two of them with lessened gastric secretion on account of disease, but the other healthy) the stomach was cleaned out by lavage after said persons had been fasting 10 hours. So thoroughly was tne cleaning done that neither particles of food nor a trace of HCl remained. After this the gastric mucous membrane was subjected to mechanical irritation by an instrutrument, Turck's Gyromele, introduced by an œsophageal sound. It represents a kind of stomach brush in as much as to the lower end of a flexible mandrin there is attached a covered spiral with a little sponge, the upper end of the rod being in connection with a rotary power, the machine transmitting its motion to the sponge. After the brushing up with this apparatus HCl was demonstrable in the wash-water, qualitatively and quantitatively, by the various methods, and in these cases could only have been derived from the gastric mucosa.

Wegele (Kuönigsborn.)

NOTES ON CLINIC HELD AT COOK COUNTY HOSPITAL FOR THE INSANE, BEFORE THE SENIOR CLASS (1897) OF RUSH MEDICAL COLLEGE.

BY D. R. BROWER, M. D.

Reported by Geo. W. Hall, M. D.

Mental diseases usually manifest themselves in one of two ways; either in the form of depression or exaltation, i. e., in the form of melancholia or mania. The former condition is usually the beginning and as such may continue but a few days only to be succeeded by mania.

The word melancholia is from the Greek, meaning "black bile", and should constantly remind us of one of its most important etiological factors, viz., auto-intoxication, a consequence of poor metabolism and deficiency in elimination of toxic products from the system. These toxins act on the nervous system, prevent sleep and generally depress the mental and physiological functions.

We have before us today a number of cases illustrating the ordinary types of this form of insanity. They all alike have a peculiar general appearance and attitude. The physiognomy is changed, an air of sadness dominates, the face seems larger than usual, the forehead wrinkled from care, the head falls forward when either sitting or walking, the eyes seem sunken in their sockets and appear larger than normal, the voice is feeble and indistinct, the whole condition indicates weariness and lassitude. The action of the heart is diminished in force and frequency, the pulse is weaker, the face thin and pale, the mouth becomes dry and the tongue coated, appetite diminished or absent, digestion impaired, bowels constipated, urine scanty, high-colored, containing oxalates, urates, uric acid and indican.

The action of the skin is diminished; it feels dry and harsh and partially anesthetized and not infrequently is it insensible to effect of heat, cold or injuries. The hand may be placed in the flame of a lamp in some cases and held there until the tissues are destroyed, without any pain being manifested.

Menstruation ceases altogether and the sexual appetite is in abeyance.

A constant symptom in all cases is *insomnia* and headache, or an abnormal sensation in the head may be present.

They are all tormented with self-consciousness and introspection; the mental processes are painful; they may reach conclusions of any kind and cling with great tenacity to any concept that bears upon the line of depression that has arisen. Some of the cases are as fixed as statues, so to speak, with their heads bowed on their chest, and they make no movements; their mental suffering is very clearly depicted in their attitude and appearance.

The melancholias of the agitated type have the same expression of sadness indelibly impressed upon them, but they are restless and unable to remain quiet. They require the closest attention as they may injure themselves in many ways, such as beating their bead against the wall, throwing themselves down stairs, pulling out their hair, destroying their sexual organs or mutilating themselves in other ways.

CLASSIFICATION.

Mental Diseases of fully developed brain—

1. Diseases without pathological lesions.
    (a.) Diseased states of the normally developed and healthy brain:—1. Melancholia psycholgia. 2. Mania psychlampsia. 3. Stuporous psychocoma; terminations of above when not cured. 4. Ch. Insanity incurable. 5. Terminal dementia.
    (b.) Diseased states of the abnormally developed brain congenital or acquired—1. Paranoria monomania. 2. Periodical insanity. 3. Insanity dependent upon the great neurosis; alcohol, epilepsy and hysteria.

(2.) Diseases with constant pathological anatomical lesions.
    1. Acute delirium.
    2. General paresis.
    3. Dementia from syphilis or coarse brain disease.
    4. Senile dementia.

Arrested cerebral development with mental defect—
    Idiocy.
    Imbecility.

I present here three patients who belong to the class of melancholia:

CASE 1. The first case here has been afflicted with melancholia for two and a half years and, by comparison with the case on the farthest chair, you will notice less impairment of nutrition in this patient because melancholia has been of shorter duration. There is also a difference in the general arterial tension, it being much better in this patient—blood-vessels are fuller and not so compressible and consequently there is better circulation throughout the body and respiratory apparatus.

CASE 2. This woman has been here only a few months and there is not so much disturbance in condition, but in all three of these cases of melancholia I want to impress on you the general signs and symptoms which are characteristic of patients afflicted with this form of insanity and to do this you must observe their positions as they sit. You can see upon their countenances that expression of depression and despair. This case has delusion of persecution.

CASE 3. The third case is a case of melancholia of short duration and you will notice the bowed head, the characteristic position, as in the other two. Temperature in all three of these cases is subnormal, consequently the hands are pale, caused by impaired circulation and consequent poor nutrition, so we would naturally expect similar conditions in the brain, e. g., poor nutrition and impure blood. The temperature registers 97.5 and 97 degrees. I wish you to notice the cold extremities, the tremor of the tongue and how it is coated. It is a case of simple melancholia, passive type, with hemoglobin record of 55 per cent.

CASES 4 and 5. I have just shown you three cases of melancholia of passive form. Now we have two cases of melancholia of agitative form. You can see on the faces of these patients that expression of depression and fear, but you will also notice that these cases are much more restless. They show their fear by being thus restless. They talk more but their general physical condition is similar to those preceding.

The prognosis of melancholia is generally favorable when the disease has developed rapidly and is not accompanied by any organic disease. The prognosis in those cases with organic lesions must depend on the nature of the disease.

The cases of melancholia may recover after many years duration. I knew of a case that made an excellent recovery after fourteen years of the disease.

Treatment—1. The insomnia demands attention. Several hours of sleep should be secured every night, and for this purpose sulphonal, chloralamid, trional or codein may be used. 2. An abundance of food must be given, and the predigested foods, such as malted milk and somatose, are of especial service. Your patient is not doing well unless he is increasing in weight. 3. Promote the activity of the organs of elimination—bowels, kidneys, skin—by mild laxatives, especially the aloetics, saline diuretics, prolonged warm baths and massage.

Other things also essential are: Occupation, diversion, amusement, and removal of the exciting cause or causes in the environment if possible, which may include travel with a well-selected attendant, a moderate amount of work and games in the open air if possible.

Mania (twelve cases presented at the clinic).—These patients now before you are in striking contrast to those you have just seen. These are all active and full of pleasure. They are similar to persons under the stimulus of alcoholics. Everything to these patients is *colour de rose.* You observe they laugh, they jest, are clever at repartee, and their physical activity is as great as their mental activity. In some, ideas follow each other so rapidly as to make incoherency and mental confusion. The pupils are usually contracted, more sensitive to light than in health, the voice high-pitched, the words flow rapidly with constant gesticulation, the tongue coated, skin dry and partially anesthetic, insensible to pain and fatigue. The temperature is usually above normal—one or two degrees. The appetite is usually increased, the taste frequently so perverted that they eat the excrements and seem to take delight in soiling the room and their persons with the feces. Sexual centers are morbidly excited. Masturbation is often practiced in the most shameless way—not being a cause but a result. The catamenia ceases.

The general character of the conduct of a maniac is impulsive. Mania may be acute, subacute or chronic. The first, as you see here, is characterized by intense excitement which merges into its chronic variety.

Treatment—The indications for treatment here are: 1. To diminish excitement; for this give hyoscin hydrobromate in $\frac{1}{100}$ grain doses; potassium bromid is also of much service. 2. Produce sleep; for this administer sulphonal, trional or chloralamid in 10 to 20 grain doses at bedtime. 3. Give an abundance of easily digestible and nutritious food. 4. Elimination and care for the general health.

TERMINAL DEMENTIA.—This group of cases now before you is in striking contrast to the two preceding. You see by the physiognomy and attitudes that they are without minds in a condition of *fatuity*. The melancholic has an active mind and an excellent memory—if you admit their premises you must admit their conclusion. They reason from a delusion but they reason well. They are dominated by an idea. They have imperfective conceptions but these are but a logical sequence of this domination. The same is true of mania, but these unfortunates have little or no memory and last they have little or no consciousness of the differences and agreements of things; they have lost in addition to memory, judgment, abstraction, reason, imagination. These have *lost* their minds those we have just seen have disordered minds.

This type of insanity is one toward which every case of melancholia, not travelling toward recovery, is drifting—the maniacs rapidly, the melancholics slowly. It is the result of the destruction of neurons by the persistency of those pathological processes that produced the antecedent conditions.

You will notice not only enfeeblement of the psychical function but also of the motor and sensory functions as well, and with them general and progressive enfeeblement of all the physical powers.

The prognosis of those cases as you will see is unfavorable, and the result of treatment must be *nil.*

The Corpuscle.

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Ruby Red and Black: Colors of Lake Forest University. Orange: Color of Rush Medical College.

ANNOUNCEMENT.

The Corpuscle will begin its new volume under a new management. Mr. C. E. Judd, of the Class of '98, has succeeded the former publisher, Mr. H. G. Cutler, and assumes his new duties with this issue. The interests of manager and editors are identical and every effort will be made to promote the welfare and succcess of the journal. As before, any important communication from an alumnus, faculty member, or student, any note of interest concerning any Rush man, any report of interesting cases or operations will be most welcome. Alumni members, especially, should heed this call as their progress is prized by their Alma Mater and friends who would share their successes with them.

OUR FRONTISPIECE.

The frontispiece for this issue shows the likeness of Drs. T. R. Crowder and E. L. McEwen, the members of The Corpuscle board who retired after the May issue. Each one has brought honor to himself—Dr. Crowder by securing an interneship at the Cook County Hospital, among the first six; Dr. McEwen by being appointed Fellow in Chemistry for the coming year. Together they have brought honor to The Corpuscle and The Corpuscle feels justly proud of them. It wishes them long life and prosperity; given the first the second will surely follow.

TO NEW STUDENTS.

To secure as large a return of the breakage fee as possible the attention of the freshmen is called to the fact that regarding the front rows in the ampitheatre, during clinics, precedence is given to upper class men. Careful attention to this will prevent undue annoyance, to the individual, and damage that otherwise might occur during his removal. The days of "passing up" the pre-emptors of these more desirable places are past, but, we are sorry to say, there are some who still cannot restrain their inclinations under the great provocation referred to. Lower class men will in time be upper class men and in turn looked up to and respected for their superior(?) wisdom, but this comes only with diligent and patient application each year, and for each neglected or carelessly done task there will be regret in the years that follow. To the new student we say: Do your elementary work thoroughly—you cannot do it too thoroughly. At the same time remember that in medicine there is great advance made constantly and this demands conversance with other than your text book, viz , practical and up-to-date information secured only in the lecture-room, laboratory, by association with practicing physicians and surgeons, and by perusal of current medical literature. It is also necessary to cultivate your college affiliations and this can be done in the best way by supporting the various student enterprises: athletics, musical organizations, class organizations, Y. M. C. A., and last but not least THE CORPUSCLE of which you should be a regular reader and to which all students are urged to contribute.

THE RUSH MONUMENT FUND.

In 1884, at Washington, D. C., the American Medical Association took the first step toward the erection of a monument in memory of Dr. Benjamin Rush, by the appointment of a committee which, in the following year at the meeting held in New Orleans, reported favorably and recommended Washington, D. C., as the site, the monument to be life size and of bronze, and costing about $40,000. At this meeting the Committee was increased by the appointment of one member of the American Medical Association from each State, Territory and National Service represented in the Association, and was empowered to collect funds for the erection of the statue. Since then appeals have been made at the annual meetings of the Asociation, but the responses have been far from liberal.

The original plan was that the amount of individual subscriptions be limited to $1.00 and that sum be acceptable from any member of the profession in the United States. Then, the dollars not coming in as desired, less sums were solicited or any sum. At the time of the jubilee meeting of the Association, held in Philadelphia early in June, 1897, only about $4,000 of the amount had been raised.

That a monument to a man as famous as Dr. Rush, should be thus neglected by the profession, seems astonishing, when in less time and from a much less number of followers, $75,000 have been raised and a monument thereby assured to Hahneman. But more than usual enthusiasm was aroused at the jubilee meeting, and it is possible that the monument to Rush is now assured, and will rival that of our "homeo" friends. Dr. D. W. Graham, of Denver, is to be credited with inciting the interest by moving that the Association at once proceed to raise $100,000 for the fund, and himself pledging, for his own State, $2,000. In a few moments $80,000 had been pledged in like manner. Dr. Graham's pledge was fulfilled at the annual meeting of the Colorado State Medical Society, on June 15, when the amount was raised by generous individual subscriptions. Let the other pledges be fulfilled at once; let individual members of the profession, who have not, add their mite, and bring into realization the desired and more than deserved monument to one who "stands among the fathers of the Nation," a member of the convention that framed the Constitution, the only physician to sign the Declaration of Independence, the first President of the Society for the Abolition of Slavery, a great writer, a great teacher, but above all a great physician—the Hippocrates of American medicine—Dr, Benjamin Rush.

FOOTBALL.

We all hope the record of the football team for last year will be equalled this season. Last year's team lost but two games and they were played early in the season. By defeating the team of the College of Physicians and Surgeons, we practically placed ourselves at the head of the list of professional schools. Let us stay at the head!

There is every reason that we should stay at the head! The facilities for training are much better this year than ever before. The gymnasium has been completed and is well equipped with apparatus and baths. Through the kindness of Dr Brophy the Rush men are given the same privileges as the men of the Dental School. All around development in the gymnasium will give the men better "wind". At the training table the diet of the men is carefully looked after by Captain Grasse. The Rockwell grounds have been secured for practice and two full lines may be seen there on any afternoon. A great many practice games have been arranged with the management of the Dental team, which insures spirited practice.

Among the old men we shall miss, are Barrett, Watson, Smolt and Cragin. But Freeman will be with us again this year and show the men in the line how to push P. and S. around. Libby is out and making his old time brilliant tackles. Senn, though not back till late, by hard work will soon get into shape. Minium, who formerly played center with Lake Forest, and Nichols, who weighs 205 pounds, are candidates for center. Foley and Walsh will probably play guard. McBride, who played half-back for Ann Arbor in '95, is trying for tackle, and Farr, who played in that position last year, is also hard at work. Tobin of Elgin is putting up a very snappy game and will probably play end, part of the season. Grasse will stop anyone who tries to make a run around his end as surely as he did last year. Bothe promises to make a fine half and Freeman makes a good showing. Washburn from Purdue, and our old Claude Searle, are trying for quarter. Everyone in school knows the kind of a game Searle can play, while Washburn shows himself to be thoroughly acquainted with the position. Wellington is in fine shape and will hold down his usual position of full-back. A great many other men have been out. Among those who show up best are Gallagher, Garlock and Stevens. The team work is as yet somewhat loose, but practice will bring it up to the standard.

Games have been arranged with the University of Wisconsin, October 9; the Banker's Athletic Club, October 23; Northwestern University, November 6; and P. and S., November 13. The Thanksgiving game will be played at Beloit. Wear your colors and shout for Rush!

COLLEGE NOTES.

We are sorry to learn that E. E. Fessler, '99, was taken home with typhoid fever after he had returned for his junior work. We trust that he will soon be able to be with us again.

The juniors are now well under way with their work. A few faces are missing but for the most part the class is as before.

J. L. Stewart, '99, continued as night nurse at the Detention Hospital during the summer.

We notice that M. M. Evans, F. H. Hacking and O. T. Roberg are back in their old places with Prof. Haines; also that J. J. Heeren, '99, has returned to his duties in the materia medica laboratory.

R. P. Daniels, '99, has taken the place of H. G. Wells, '98, assistant to Prof. Hektoen.

This year the work in the physiological laboratory will be carried on as usual and the lower class men are to be congratulated on having such an opportunity as is presented in this practical course. Some needed improvements have been made in the laboratory and new apparatus has been added.

Several men from the Chicago Medical have matriculated at Rush this year, most of them entering the junior class. Among them are Messrs. Thompson, Sturm and Dietrich.

Juniors are especially fortunate this year in that the senior class is so small. This will give them a better opportunity than has been offered to juniors for years, to attend clinics. We trust, however, that they will respect the privileges of the seniors and not trespass in the first two rows of the amphitheatre.

Several rooms have been fitted up on the first floor of the laboratory building which will serve as additions to the pathology laboratory.

Heretofore the secretary's office has been overtaxed with answering questions in regard to the work. To do away with this a bureau of information has been established in Prof. Hektoen's office where he will gladly answer any and all questions in regard to the college work. The hour for this is from 11 to 12 A. M.

Dr. Stanton S. Friedberg, '97, is house physician at the German Hospital, the appointment having been made during the summer. Dr. G. H. Miller, '97, is an interne at the same hospital.

F. S. Crocker and C. S. Losey, '97, are located in the city at the Dysche Building.

Dr. F. S. Skinner, '97, is at Marion, Iowa.

Profs. Bouffler, Hamilton, Hyde and Ingals attended the British Medical Association at Montreal, Aug. 31 to Sept. 4.

Dr. A. H. McCreight, '97, has located at Fort Dodge, Iowa, and reports progress.

Dr. J. G. Cunningham, '97, has opened offices at Lockport, Illinois.

Great satisfaction is felt among Chicago medical men over the announcement that Dr. Nicholas Senn, of Chicago, carried off the honors for America at the recent sessions, in Moscow, Russia, of the International Medical Congress. After reading a paper before the military surgeons in the Royal Theatre some of his hearers, among them many famous medical men of Europe, took him upon their shoulders and bore him from the stage, cheering his address. As a further mark of distinction the Czar transmitted to Dr. Senn through the Secretary-General of the Congress an invitation to make his residence in the Kremlin as an imperial guest during his stay in Moscow.—*Chicago Record.*—We are informed that this tender on the part of the Czar represented the highest honor possible for the Russian Government to pay to an American.

Drs. E. A. Rogers, A. W. Meyer and Edward E. Schell, have located at Bloomington, Ill.

Dr. W.W. Malloy has an office on Paulina Street, Chicago.

Dr. Lake M. Doyle is practicing in Dauphin Park, Chicago.

Dr. W. F. Stokes writes us from Lawndale that prospects are bright there in his line.

Dr. E. A. Smolt has accepted a hospital position in Michigan.

Dr. W. F. Jacobs has entered on his duties at St. Elizabeth Hospital.

Dr. W. F. Holmes, assisted by a junior student, opened an office on Ogden Avenue during the summer.

Dr. F. P. Cox has located near Clinton, Ill.

Dr. Phillip Doane, '95, on completing his term as interne in the Presbyterian Hospital, opened offices at 1723 Belmont Avenue, Chicago.

W. H. Folsom, '97, has been appointed house physician at Waldheim Sanitarium, Oconomowoc, Wis.

Medicine, June 1897, contains an article on "The Streptococcus Pyogenes the Cause of Diphtheritic Conjunctivitis in a Case of Measles," by H. A. Brennecke, M. D., Rush '96.

The American University Magazine, April-May 1897, in an illustrated article on "The University Club of Chicago," presents excellent half-tones of Dr. Etheridge and Dr. Hyde.

Dr. H. S. Judd, '95, completed his interneship in the Presbyterian Hospital on June 1 and has since opened an office at 618 Kansas Avenue, Topeka, Kan.

J. A. Andrews, formerly of the class of '96, is playing ball with the Des Moines, Iowa, team. He says he will return and graduate in 1900.

New students will find much food for thought in the following lines taken from *The Sequoia* of Stanford University, California:

> "Study your head Professor
>   More than the books you buy;
> The proper study of mankind
>   Is man, you know, so try.
> Fathom his favorite hobby,
>   Some hidden crank unearth,
> Whether its books or babies, just
>   Work it for all its worth."

Dr. J. E. Skinner left for his new field of labor, China, the evening of October 2, going to St. Paul, thence via the Canadian Pacific to Vancouver, B. C., whence he sails on the Empress of India October 11. Dr. Skinner will be missed in the quiz-room, in the lecture-room and the laboratory, and Rush men with one accord wish for him *bon voyage.*

Dr. John Edwin Rhodes, '86, Treasurer of the Alumni Association, has been elected Fellow of the American Laryngological Association. His candidates thesis, "Atrophic Rhinitis" appeared in the *Journal of the American Medical Association*, June 26, 1897.

The Alumnus, of the College of Physicians and Surgeons, Keokuk, Iowa, says: "Dr. Monroe N. Dodson, '51, of Berlin, Wis., is believed to be the oldest living alumnus of this college." "He is the father of Dr. J. M. Dodson Professor of Physiology in Rush College, Chicago." Dr. Dodson, the elder, received an "Honorary Degree" in medicine last year from Rush.

The *Medical Mirror*, St. Louis, in writing editorially of the meeting of the American Medical Association says of Dr. Senn "President Nicholas Senn covered himself with glory as the presiding officer. He was prompt in his rulings and usually correct. But whether right or wrong his decisions were rendered in such a manner as to carry conviction, and that is one of the essential parts of the equipment of a president." "Dr. Senn, in addition to being probably the greatest surgeon in America, one of its greatest authors and one of its greatest teachers, can now add to his list of achievements the fact that he is one of the best presidents furnished by the American Medical Association."

"A Letter from Rush Medical College," written by H. G. Wells, '98, appeared in the *Yale Medical Journal* for June.

Mr. T. Overton, '97, who sued this College for his diploma, which had been withheld because it was alleged that he had been caught cribbing in an examination, lost his suit before Judge Waterman.

Dr. A. T. Holbrook, '95, has entered into the practice left by the death of Dr. William Fox, '70, of Milwaukee.

Dr. C. F. Witte, '95, finished his Presbyterian Hospital interneship, October 1.

Arrangements have been made with Dr. Brophy so that Rush men can have the use of the gymnasium in the dental building for the season for $20. Physical Director Grasse will soon begin regular classes. Rush men should embrace this opportunity and not go to the more distant gymnasiums.

Mr. and Mrs. John Ziegler announce the marriage of their daughter Hannah to W. C. Schulze, M. D., Saturday, Sept. 4, 1897. They will be at home after September 21, at Lomira, Wis.

Mr. and Mrs. J. Lawson announce the marriage of their daughter Hattie to Frank E. Shaykett, M. D., Wednesday, Sept. 8, 1897, at Brandon, Wis. Dr. Shaykett was graduated in the Class of '94.

Theo. Thompson, M. D., '97, has located at Shelbyville, Ill. Among fifteen practitioners in the town he is the only

Rush man. Dr. Thompson was recently elected County Physician for 1898.

At the meeting of the British Medical Association held in Montreal, August 31 to September 4, Prof. E. Fletcher Ingalls, by invitation, read a paper on the "Relation of Nasal Disease to Pulmonary Tuberculosis" before the Section on Laryngology and Otology.

Rush's Faculty was well represented abroad this past summer. At the International Medical Congress at Moscow, Prof. Senn read, by invitation, an address on the "Classification and Surgical Treatment of Acute Peritonitis," which appeared in the issues of September 4 and 11 of the *Journal of the American Medical Association.* Prof. Cotton read a paper on "The Egg as a Food for Infants." Others abroad were Profs. Brower, who read a paper, Bevan and Hektoen and Drs. Favill and Moyer.

MRS. HYDE'S MARRIAGE.

When the Greek youth Jason accomplished the tasks assigned him by the King of Colchis he not only secured the Golden Fleece but won the hand of Medea, the King's daughter. And when the Argonauts left for their home, Jason not only carried his coveted sheepskin, but was accompanied by a bride. Dr. Ezra Read Larned was graduated from Rush with the Class of '97 and on July 29, at Rockford, Ill., Camilla Don Kersley Hyde was united in marriage to Dr. Larned, the modern Jason, who had not only secured a golden fleece as a result of his sojourn at Rush (in the shape of a diploma), but like Jason of old, when he left he carried away a bride. Dr. Larned enters practice with every prospect of a glorious future, and his wife leaves Rush to take charge of a pleasant home in the city of Joliet. In the loss of Mrs. Hyde the students of Rush have not only been deprived of a pleasant picture and a theme for poets, but one who illustrated in her work the practical application of antiseptic principles to surgical work. Many a student has gained valuable hints by watching this ideal surgical assistant, and many patients have been saved untold suffering by her careful observance of antiseptic principles. Those who knew and appreciated Mrs. Hyde at Rush, both students and alumni, offer their congratulations and wish them a happy future. Dr. Larned's residence is 330 Fifth Ave., and his office is in the Barber Building, Joliet, Ill.

AN INTERESTING LETTER FROM PROFESSOR COTTON.

A letter recently received by Professor Hamilton contains the following of interest to Rush students: "London now is like a Chicago April, excepting that the dampness is more penetrating. We visited Holland, Brussels, Cologne, Heidelberg, Berne, a few days in Switzerland, Munich, Vienna, Prague, Dresden, Berlin, then to Russia and back by St. Peterburg, Finland, Sweden and Denmark. I have spent most of the time in the hospitals at Munich, Vienna and Berlin. I also visited hospitals for children and obstetrics in all the cities wherein I stayed a day. We are ahead of them on hospitals in the main, and I have seen nothing in them, except as to number of patients, that we cannot beat in Chicago. Not Guys, St. Thomas, The London nor St. Bartholomew have as good an operating theatre as you have in the Presbyterian Hospital. Of course in those great barracks, with over two thousand beds, at Vienna and Berlin, with their ten to twenty post-mortems daily etc., opportunities for the study of gross pathology are first-class. The same is true of obstetrics, with the ten thousand labor cases a year and Leopolds four thousand a year at Dresden and about the same number at Prague, which opportunity I was not slow to take advantage of to pick up a few ideas in obstetrics. But when it comes to operating, Americans need not blush for our home surgeons. Therapeutics they know little of and care less about and as to the care and feeding of infants modesty forbids me to state that they are not 'in it' with us." Professor Cotton's paper was the only American paper before the Pediatric Section of the International Medical Congress, and he was congratulated therefor by Heubner, of Berlin; Monti and Chroback, of Vienna and Parvin of Philadelphia.

PROF. HAMILTON'S ALUMNI DAY CLINIC.

We are always glad to note references, to members of the Faculty of Rush, in the leading medical journals. The *Medical Mirror* of St. Louis has the following to say concerning a remarkable clinic held at Rush Medical College, Alumni Day, 1897.

"Dr. Hamilton holds a surgical clinic at Rush College. The essential feature of his surgical work is accurate diagnosis and rapid operating.

He holds a very practical surgical clinic of inestimable value to students. His clinic is of a high order. He is an impressive and forcible teacher, a fluent and entertaining speaker. His striking personality infuses much dignity to his subject. His views and labors in surgery are conservative. His expressions are always dignified, concise and classical. He employs a vigorous and an exceptionally wide vocabulary.

Among the surgical operations for which Prof. Hamilton is justly famous is that of hernia. He was one of the first surgeons to really introduce the modern methods of herniotomy in Chicago, and to his classical paper read in this city in 1886, the reader may be referred as one of the most accurate, concise and instructive articles. To illustrate the extensive practice in herniotomy we note that at one of his recent clinics at Rush he presented in the arena eight cases of herniotomy on which he had operated, in none of which was a drop of pus, a showing of which any surgeon may well be proud, for if there be any locality in the human body which is difficult to preserve aseptic after operation it is the groin. The proximity of the genitals, the accumulation of considerable low-graded, non-resisting fat tissue and its poor vascular supply makes operations on the groin prone to suppuration.

Prof. Hamilton's method of performing herniotomy is the result of the past twenty years accumulation in surgical progress. It includes the advance in herniotomy made by such surgeons as Chamfonnier, Marcy, Bassini, Halstead and others which consists in an efficient restoration of the abdominal walls which were made deficient by congenital or acquired processes. In doing the operation the cord is removed from its old dilated inguinal canal to a location immediately under the superficial and deep fascia and its abnormal point of exit is removed nearer to the anterior superior iliac spine. The inguinal canal, pillars of the hernial ring or better the slit in the inguinal region is closed by three to five silver wire sutures which are left permanently buried. The superficial and deep fasciæ are sutured over the spermatic cord by catgut and the skin is united by interrupted silkworm gut sutures. Many a surgeon has profited by observation of Dr. Hamilton's labors in herniotomy. Chicago is justly proud of its distinguished men of science. Dr. Hamilton combines the rare traits of an eminent citizen, a man distinguished in letters and a skilled surgeon of national reputation. He is an honorable gentleman and genial companion and friend of which many are proud. May his days of health be many and his circle of usefulness increase with time."

Alumni Department.

JAMES B. HERRICK, A. B., M. D., Editor.

Membership in the Alumni Association of Rush Medical College is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to The Corpuscle for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Chicago.

Dr. A. Townsend. '96, is at Oxford, Nebraska, and is already well started in a thriving practice.

Dr. W. C. Bowers, of La Place, Illinois, was unable to attend the Commencement exercises owing to his absence in the East at that time.

G. E. Fosberg, '96, is at Cedar Rapids, Iowa. He is building up a large practice, doing much surgery and being often called to neighboring towns to do work in this special line. He was in the city for a few days last month.

Jefferson, Wis., June 15, 1897.

John E. Rhodes, M. D., Chicago.

Dear Doctor:—Yours of the 10th received this morning, and I hasten to comply with your request, as I should feel lost without the regular visits of the Corpuscle as it keeps me posted on the doings of "Dear Old Rush". Find enclosed fifty cents as balance of dues. Yours truly, G. L. Smith.

'95—E. W. Zook, of Dunlap, Ills., hopes for continued prosperity for the Corpuscle and "Old Rush".

'68—J. R. Barnett, of Neenah, the newly elected President of the Alumni Association, also expresses approval of the change in the amount of the annual dues and hopes there will be a general response to the circular of the Secretary.

'94—Geo. W. Baker, Ogden, Utah, regretted his inability to be present at Commencement. "Each succeeding year I find myself growing prouder of my Alma Mater." A possible explanation of the Doctor's inability to attend came a few days later in the announcement of his marriage to Miss Oralie Atwood, of Murray, Utah.

'97—Dr. John Luckey, who will be remembered as one of the former editors of the CORPUSCLE, writes encouragingly from Vinton, Iowa. While doing well he still has time for study and is "brushing up" in German.

'72—F. Antes Canfield, Necedah, Wisconsin, writes: "I have often wondered how you could afford to edit or publish so good a journal for so little money. Long life to the CORPUSCLE.

The Huron (S. Dak.) *Herald-Democrat* announces that Dr. Tillson Wood, '97, has made arrangements to become a partner of Dr. J. L. Foxton, of that city.

We have received the inaugural dissertation of Dr. James H. Houan,'95,written as a requirement for the Doctors Degree at the University of Berlin. The title is "On Carcinoma of the Glands of Bartholini." We congratulate Dr. Houan on his success in securing the coveted honor of a degree from Berlin.

Dr. Strong, '97, who was for several weeks in the Presbyterian Hospital, ill with pleurisy, has improved greatly in health at his home in Fort Atkinson, Wis. He plans going South for the winter and will perhaps locate there.

At Fort Atkinson also is Caswell, '97. He is already in a good practice, being in partnership with his preceptor, Dr. Perry.

Those who knew Dr. B. F. Strong, '96, will feel grieved to learn of the death of Mrs. Strong, June 30. She had been ill for a long time, but during her illness had been very patient and hopeful and most faithfully and tenderly watched over by her husband. All will join in expressing sympathy with the Doctor in his affliction. Dr. Strong is at Howard, Kansas, and in spite of the illness at home has been able to become firmly established in a fine practice.

W. L. Curtis, '96, has been appointed Demonstrator of Anatomy, in the Omaha Medical College.

We are glad to receive the following letter telling of the honor conferred upon one of our graduates. And we wish more alumni would be free to express opinions concerning the CORPUSCLE, and to offer suggestions.

RENSSELAER, IND., June 29, 1897.

EDITOR CORPUSCLE, Chicago.

Dr. John C. Webster, of La Fayette, Indiana and Rush Medical College, class of 1870, was appointed by Governor

Mount a member of the State Board of Examination and Registration as provided by the new law of Indiana regulating the practicing of medicine and surgery. It is modeled after the Ohio and Illinois laws.

The Alumni of Rush Medical College want more college news in the CORPUSCLE and less "fine writing". We get the latter in our "High Class" and *impracticable* medical journals.

Respectfully yours, I. B. WASHBURN, 1861.

As showing the feeling that exists among the Alumni regarding the CORPUSCLE, and as an incentive to those who have not yet joined the Association and in that way become subscribers to this journal, we print several letters that have been received by our Secretary, Dr. Rhodes. We trust that they will serve to arouse an interest among those graduates not yet subscribers, as well as let interested friends know the whereabouts of old college acquaintances. Many others of similar tone are at hand. We regret that there is not space for the publication of all of them.

GREENWOOD, WIS.

Dear Sir: Enclosed please find draft for $1.50 in payment of my dues to the Alumni Association. I have neglected this. I do not intend to miss any publication of the CORPUSCLE. Rush men are well represented in this part of Wisconsin and are always "well up" in their profession while all show a flash of enthusiasm and pride when referring to their *alma mater.*

Fraternally, G. L. BULAND, M. D.

BUSNELL, ILL., Sept. 14, 1897.

Dear Doctor: Yours of August 12 received and I beg pardon for my seeming neglect, but the fact is that we lost our babe on August 11 and I have been quite busy and worried ever since.

I am doing a good business here and have prospects for better and more of it.

I enclose a draft for $1.50 for which please renew my Alumni membership and send the CORPUSCLE.

I had hoped for leisure time to spend at "Old Rush" but find it out of the question this fall, but I have great satisfaction in the knowledge that "Old Rush" is still inthe lead and growing in popular and professional favor. I also wish for the success of the Alumni Association and consider myself favored in being eligible to membership.

Fraternally yours, CH. MONTGOMERY, M. D., '95.

PEORIA, ILL.

Dear Doctor: Acting upon your reminder of the 14th ult., I herewith send you $1.50 to cover Alumni Association dues and subscription to the CORPUSCLE. I supposed the latter was dead and gone, never to rise again, for my last number received was that of June, 1896. Perhaps my name was striken off the list long before the journal suspended, for reasons unknown to me.

Fraternally yours, O. J. ROSKOTEN, M. D., '82.

CELINA, OHIO, Sept. 13, 1897.

Dear Doctor: Enclosed find $1.50 for my Alumni dues, and one year's subscription to the CORPUSCLE. It is the most welcome medical journal that comes to my office.

I am receiving my share of McKinley's promised prosperity—have been appointed U. S. Pension Examining Surgeon, and am enjoying a good practice. With best wishes for "Old Rush" I am, ROB'T. E. RILEY, M. D., '93.

BAYFIELD, WIS., Sept. 10, 1897.

Dear Doctor: I enclose money order for annual dues and the CORPUSCLE. I also request that you inform me where I can procure a Rush Alumni pin, class of '81, and cost of same. I am proud of Rush and want to wear her colors.

Yours fraternally, H. HANNUM, M. D., '81.

PUBLISHERS' NOTES.

A BIG BOOK ABOUT BAND INSTRUMENTS.

If you are interested in a band instrument of any kind, or would like to join a band or drum corps, you can obtain full information upon the subject from the big book of 136 pages that Lyon & Healy, Chicago, send free upon application. It contains upwards of 1,000 illustrations, and gives the lowest prices ever quoted upon band instruments.

A CHARMING BOOK ABOUT OLD VIOLINS.

Violinists everywhere will hail with delight the beautifully printed and authoritatively written book about Old Violins, just published by Lyon & Healy.

Either of the above books sent free upon application to Dept. U, LYON & HEALY, 149 Wabash Avenue, Chicago.

WORTH KNOWING.

The following strong tribute is from one of the most eminent physicians of Philadelphia. "I have had faithful trials made of Imperial Granum, and can announce it to the profession as a good, reliable food as a substitute for mother's milk in little babies afflicted with any digestive derangement, but especially in enteritis or what is commonly known as summer complaint."

Physicians can obtain samples of this most valuable food free, charges prepaid, on application to JOHN CARLE & SONS, 153 Water Street, New York City.

ARE YOU IN PAIN?

"Antikamnia has become a favorite with many members of the profession. It is very reliable in all kinds of pain, and as quickly acting as a hypodermic injection of morphia. It is used only internally. To stop pain one five-grain tablet (crushed) is administered at once; ten minutes later the same dose is repeated, and if necessary, a third dose given ten minutes after the second. In 90 per cent. of all cases it immediately stops the pain.—Hugo Engel, A, M., M.D., in the *Boston Medical aud Surgical Reporler.*

RUSH-97
M. S. DENNUT
A. E. Price
C. W. McKee
ORAL READ LEARNED

The Corpuscle.

Rush Medical College, Chicago, Ill.

Medical Department, Lake Forest University.

Vol. VII. NOVEMBER, 1897. No. 2.

THE DEVELOPMENT OF MEDICINE.

ADDRESS INTRODUCTORY TO THE FIFTY-FIFTH ANNUAL COURSE IN RUSH MEDICAL COLLEGE.

BY LUDVIG HEKTOEN, M. D.

Professor of Morbid Anatomy.

[CONCLUDED.]

But the study of the gross pathological changes in the organs could not alone furnish an insight into the exact course of development and the real nature of various forms of disease. From the invention of the microscope and the knowlege gained through it of the finer structure of the tissue it was but a short step to the microscopic study of the morbid changes. Now the development through the investigations of Schleidens and Schwann, of the cell theory, is justly regarded as one of the most important and far-reaching achievements of the whole science of modern biology. In the terms of this theory every part of the animal body is composed of elements, corresponding to plant cells, or is derived from such elements that have undergone certain changes. These units, or elements, in consequence of a now discarded hypothesis, which was once believed in, are called cells. In the study of the cell the botanist, the zoologist, the physiologist, and the pathologist go hand in hand if they wish to search into the vital phenomena that take place during health and disease, for it is in the cells—the vital elementary units—that the vital functions are executed. The cell theory has wrought wonderful changes and advances in the teachings of physiology and pathology and this theory is the center around which the biological research of the present time revolves and the changes that occur in the cells in disease form the basis from which investigations into the nature of disease start out.

The modern cellular pathology was founded by Rudolph Virchow in 1856 with the celebrated dictum "omnis cellula e cellula." The researches of Johannes Müller, Vogel and others had shown that morbid growths like tumors and the products of inflammation largely consisted of cells, but as yet the opinion prevailed that the cells were formed by the organization, as it was termed, of exudate from the blood, that they arose by a species of spontaneous generation from a so-called formless blastema. Virchow crystallized an increasing tendency to derive all cells from the multiplication of pre-existing cells in the epigram "omnis cellula e cellula," the truth of which was never more strongly established than at the present day since it has become susceptible of direct, objective proof by the discovery of indirect nuclear division. Spontaneous generation of cells does not occur either in plants or in animals. The countless millions of cells of which, for instance, the body of a vertebrate animal is composed have all been formed each single one by the repeated division of cells originally derived from one cell, the ovum, in which the life of the animal began. This law stated in the words "omnis cellula e cellula" is self-evidently one of fundamental importance in biology.

But the cellular pathology of Virchow is, as he himself has stated, a refinement of the anatomical conception of Morgagni in regard to the seat of disease, the teaching being carried to its logical conclusion and applies to the cellular elements of which the tissues are composed.

During the last fifty years. since the study of the cell in disease really began, medicine has developed to a remarkable extent. The teachings in regard to the majority of the disease have received many and profound changes and our knowledge of the nature of disease has grown deeper and deeper. The methods of investigation in order to reach a clear insight into the development of the morbid changes that lead to diseases have multiplied and reached greater degrees of experiment. At first the method employed was principally the anatomical and historical. But the pathological changes demonstrable with the best optical instruments and in preparations made according to best technical methods do not give a perfect picture of the conditions during life and, above all, they do not give any clear view of the cause of the changes. In each slide or preparation there can be seen but the stiffened image of one phase of the development of the process; only a combination of numerous single pictures could supply an adequate notion of the development, the genesis, of the whole process, but it is exceedingly difficult to obtain material from the human body suitable for a series of pictures of this kind, for a cinematographic representation of the evolution of disease. Hence progress in its study of the genesis of disease has required the united labor of hosts of diligent investigators in order to reach reliable and permanent results; conflict of opinion and change of views have frequently occurred and will continue to take place, but "antagonistic opinions are necessary to the life and development of science."

As it became evident that the study, microscopic and otherwise, of dead parts could not clearly solve many problems, the use of animal experiments came into vogue more and more. Animal experiments do not belong exclusively to recent times. Harvey, Hunter and others made extensive and profitable use of this method of research, but of recent years this method has grown to an important extent and has been found widely applicable. Virchow's epoch-making experimental investigations concerning thrombosis and embolism gave a mighty impulse and more and more questions in pathology have been subjected to experimental control, as witness the studies in wound healing, inflammation, the action of infectious substances, poisons and drugs.

From the study of the appearances of the morbid changes in the organs and tissues, the attention has been directed more and more to the cause of the changes, to the important question of pathogenesis. As indicated already, Morgagni made the anatomical changes produced by disease the starting point for the investigation of their etiology. The morbid changes of disease constitute the material expression or form of the disturbances which the physiological tissue elements—the cells—have suffered under abnormal conditions of life and function (Birch-Hirschfeld). The study of morbid anatomy, of the seat of disease, naturally led to the study of the causes of the morbid changes. In this manner the presence of parasites in the tissues was first recognized. First the relatively large animal parasites were studied and the possibility of the entrance of living organisms into living beings positively proven.

The clinical study of the mode of spread of the infectious diseases, and certain chemical investigations into the processes of fermentation and decomposition had long ago indicated the existence of a contagium vivum. The investigations of F. Schulze, Th. Schwann, Helmholtz, Pasteur and others, forever overthrew the theory of spontaneous generation and gave rise to studies of micro-organisms that were of great value for the development of a scientific theory of the infectious diseases. In 1855 Pollender and Branell discovered the cause of anthrax in the form of small rods in the blood. In the years 1866-71 Klebs and von Recklinghausen demonstrated, by histological methods, the presence in the tissues of the micro-organisms that cause suppuration and other wound infectious diseases. By means of special methods of staining and culture and other technical inventions Pasteur, Koch and their followers succeeded in demonstrating, in many diseases, the constant presence of certain microbes in the body of the patient, in isolating the same organisms in pure growths, and in reproducing the original disease experimentally by inoculating the pure culture into susceptible animals. The study of the action of chemical substances isolated from or produced by various pathogenic bacteria has still further increased our insight into the genesis as well as the termination of various infectious diseases. These great discoveries have opened up new fields for investigations with results of the greatest practical and scientific importance, as witness preventive medicine, antisepsis and the antitoxic treatment. It would carry us entirely too far afield to even attempt a mere enumeration of the work of the many investigators that have applied these new principles to the study of the pathogenesis and treatment of various single diseases. Suffice it to say that the microbic theory of the infectious diseases and the great advances in the knowledge of these are the direct outcome of laboratory and experimental investigations based, in the final instance, on the study of the action and the reaction of the cells under normal and under abnormal conditions.

The development of physiological chemistry, that is the inquiry into the chemical composition and the chemical products of the cell, has thrown a flood of light upon many processes not before understood. Without entering into details in this rich field I may call attention to the recent rapid growth in the knowledge concerning the physiology and pathology of anatomy is only a part of pathology, the science of disease, which also includes the experimental, chemical, and clinical the ductless glands, particularly the thyroid and the adrenals, the function of which consists in the production of internal secretions which are essential to life; chemistry has to a certain degree isolated the essential principles of these secretions and studied their physiological actions so that the nature and genesis of the diseases that result from various morbid changes in these ductless glands have been quite fully explained; furthermore it has been made possible to obviate the evil results of insufficient or suppressed internal secretion, more particularly in the case of the thyroid, by the giving of thyroid extract or of its active principle, namely Baumann's thyroidin. Now these fruitful researches had their first beginning in the study of the structure of these organs and in the experimental and clinical examination of the diseases that follow their removal and certain morbid changes in their interior.

From these very general and, of necessity, fragmentary considerations I trust some notion has been conveyed to you of the main steps in the development of our present knowledge of disease, its nature and its causes. The study of the symptoms of external manifestations of disease alone and detached from anatomy and physiology could not supply an adequate conception of the nature of disease broad enough to serve as the starting-point of special researches. Then, after a long period of repose, came the introduction of the study of anatomy followed, before long, by the discovery of the circulation of the blood which was the foundation of physiology, or the study of the functions of the structures revealed by anatomy. Experiment and observation were established as the true method of studying natural phenomena. And now Morgagni clearly showed that diseases are connected with changes in the structure of the tissues of the body and thus founded morbid anatomy. Morbid anatomy is that part of the science of medicine which deals with the genesis and nature of the structural changes in the component parts of the body that lie at the bottom of the diseases. It forms the bridge between physiology and practical medicine, which is theory applied and theoretical medicine is pathological physiology. The development of the cell theory and of refined anatomical methods have made t possible to study the changes that occur in the vital elementary units, the cells, and modern medicine is therefore based on a cellular pathology, or doctrine, which refers diseases to changes, structural and otherwise, in the cells. But morbid study of disease, and pathology is but a part of biology or the science of life.

In full recognition of the great principle that underlies all progress in biology, namely that the only true way to study natural phenomena is by direct, personal observation and experiment, the method of studying medicine has, under the influence of wise teachers, of late undergone marked and, in certain respects, profound improvements. The old didactic method of imparting knowledge by means of more or less stereotyped lectures that told of things the student had no means of subjecting to personal study has given way to a system that brings the student into personal contact with the substances and the phenomena of which he is trying to acquire an intelligent understanding. Practical laboratory courses in the various fundamental medical branches are given in which the student directly solves the problems placed before him, makes his own experiments and these courses are supplemented with more informal conferences and individual study of select literature. Arrangements are being perfected by means of which all students may have full opportunity of studying the various forms of disease as they occur in the patient in the hospital ward and ambulatory clinic and not merely as described in the text-book or as represented by the professor in the amphitheatrical demonstrations. Laboratories have been established in connection with all medical schools and clinics worthy of the name for the purpose of training students and of original research. Practical instruction is, or ought to be, given in all departments of practical medicine. It is self-evident that there is only one correct way of learning how to give anesthetics or how to examine a patient's larynx, namely by being directed how to personally administer the anesthetic or examine the larynx. Observation, experiment, and practical training are the essentials in the modern medical course.

Because most highly necessary and because so long delayed, the beneficial influences of the new system in medical teaching have been particularly noticeable in our own country. In the first place a new kind of spirit, a spirit of independent inquiry, has come among the students; directly interested in the investigation of the many problems in medicine, men have begun to furnish contributions to literature based on original research and an indigenous medical literature of broad scope and scientific value is rapidly springing up. The good impulses of the work of properly trained physicians are also rapidly felt in the communities in which they live and reflected in much needed improvements in medical legislation and in the government of local hospitals and charitable institutions which, in this country, have not as a rule been favorable to scientific medical progress, and also in the diversion of accumulated wealth into channels where it may directly help the growth of American medicine.

To the great concourse of students before me, old and new, it is well to point strongly to the fact that, no matter the excellence of the advantages presented; it rests wholly with each single one of you the amount of real good you are to gain from your work. You must bear in mind that real advance in knowledge comes only from hard, personal effort to master the problems you meet. It has been said that the search for truth is more precious than the easy and untroubled ownership of truth. The most your teachers can do is to point out the way to proceed. It is not in their power to insert learning in your heads by a process of hypodermic injection or forced feeding. They can place before you the raw materials, but you must prepare them with your own utensils and incorporate the products with your own mental efforts. It is even so that though all the facts may be supplied you, but the results, even if they agree with previous ones, must be the work of your own mind. Physicians are made, not born, and the best physicians make themselves. I do not want to be understood that natural abilities count for nothing, or that good teachers are of no use and medical colleges a luxury, but I insist that the functions of these cease when practical and helpful opportunities are given the student to study and to observe. In the laboratories, the clinics, the lectures and conferences opportunities are continuously presented in rich measure for the purpose of active assimilation and growth. Knowledge is not a mere collection of words; it must be gained by ourselves; "it is a delusion to suppose that thought can be obtained by the aid of any other intellect than our own."

LECTURE TO THE CLASS OF '97.

BY E. FLETCHER INGALS, A. M., M. D.

Reported by E. L. McEwen, M. D.

The young doctor beginning practice is beset with doubt as to how patients are to be secured and how kept. Some older heads say: "Never mind, you will have time to kill about a dozen or so at first." Better advice is: "Whatever you do, don't do any harm." The young doctor has many things to learn and to avoid.

Be gentlemanly to all, the old and the young and the rich and poor alike. Never lose your temper; the effect is bad upon yourself and your reputation and nothing is gained thereby.

Dress does not make the man; nevertheless, clothing has much to do with success. Dress as well as you can compatibly with payment of your debts. Avoid all peculiar and striking styles, and by all means let your clothing be clean, free from all spots that point to careless habits. Aim to present a neat appearance.

Be careful about your personal habits. Do not make a practice of loafing around the post-office or in stores, but spend your time at home in study. This will not only serve to better qualify you for practice, but by keeping out of sight people will think you are away on a case. The impression gets abroad that you are busy and very soon you are. The young doctor generally has enough time on his hands to thoroughly test this advice.

Do not quarrel with your fellow physicians. Do not speak disparagingly of any of them, even of quacks. They all have some redeeming qualities though it be nothing more than an enterprising disposition. Be on good terms with them all, however disagreeable some may be. If you say harsh things against them, people will say that you are a back-biter, that you are jealous because your practice is smaller, and that you are trying to injure them.

It is an extremely important point to be able to remember names. Cultivate this, it may be difficult at first but practice will help greatly. It is sometimes advantageous to associate some personal peculiarity with the name of the person whom you meet.

Be honest with your patients; don't be mercenary. When a patient comes to you do the best you can for him at once; do not put him off thinking to investigate more carefully some other time for he may never return.

Keep a copy of every prescription you write. This is valuable because it shows what has been given a patient day by day. A busy doctor treating a chronic case may easily forget the exact medicines that have been administered. Again, a case may come to you after going the rounds of the doctors; you prescribe and the patient leaves; years after he reappears, tells how the remedy benefited him, how the prescription was lost, and asks for another like it. If you have kept a proper copy it will be of much value to your reputation. It is a good plan to keep a record of every case you treat. This may seem difficult in a house to house practice, but suitable history cards can be devised to make the matter comparatively easy. Many of these records will be useless, but many, too, will be very valuable.

Make your patients feel that they are responsible for part of the success of your treatment of them. Do not say: "I will cure you," etc., but rather, "we must pull together; you must help," etc. The "I" is nearly always objectionable. Generally it is well to begin medication with minimum doses, as not two persons are affected exactly alike by drugs. Do not leave more medicine than will be used, if you do your patient will think he is paying more than is required. This is especially applicable where you intend to change the medicine in a day or so. Do not be surprised at anything, or if you are do not show it. If a patient presents peculiar and alarming symptoms following the use of a certain medicine, take it calmly in a matter-of-fact way, and do not discuss the unusual effect of the drug until you have had an opportunity to look up the subject thoroughly. Do not attribute the failure of your medicines to faulty compounding by the druggist. Druggists are entitled to fair treatment and you should maintain pleasant relations with them, for they may easily injure or help you.

When a patient consults you, pay very close attention to what he says. If he shows a tendency to ramble from the subject in hand, bring him back in a tactful manner, but keep him to his subject. Do not joke a patient about his disease for he may be much concerned about his condition, although you can see that it is only a trifling matter. Do not let the story of a patient's fears provoke you to laughter, however great the temptation, but explain patiently the true condition, and however ridiculous it may be do not even smile, but let it pass by without comment. On the other hand, do not magnify a patient's illness, for such a course is dishonest. It does not help them to recovery and may put you in an unenviable position should the illness prove trivial. Treat all sickness as a serious matter but neither magnify nor belittle their ailments. Establish a reputation—not of telling everything, but of telling the truth when you do speak.

Medicine should be made as pleasant to take as possible, especially for children. If you do not observe this precaution your little patients will soon be treated by the homeopaths. Women, too, generally prefer pleasant medicine, but men, especially tobacco users, are not usually so particular; however, some classes like strong medicine and large doses. An Irishman does not generally think he is getting his money's worth unless the dose is large, the taste bad and the effects pronounced and enduring. It is well not to be obliged to take harsh measures to administer medicine to children, for neither they nor their parents will like it. Endeavor to make the medicines so pleasant that the child will not need to be coerced, but in extreme cases, instead of hiring or coaxing, it is generally best that the patient be held firmly while his nose is compressed tightly until the mouth opens, then turn in the medicine and hold the nose until it is swallowed. Do not give a patient too many doses during the day. Not infrequently the doctor forgets to stop previous medicines at the time of changing and the patient continues to take them all, or the doctor in his anxiety may order several kinds of medicine so that the patient is dosed every half hour or hour with more harm than good. Generally it is not best to waken a patient to give him medicine. Having decided on a course of treatment do not change it at the suggestion of bystanders or attendants, though a measure which does not disturb or harm the patient may be allowed if it pleases and satisfies the friends. Any radical measure proposed by friends should be firmly and tactfully resisted, at least until a subsequent visit.

While making an examination of a patient, the family or friends frequently ask many questions regarding the patient's condition, especially if the physician is young. In answering these do not commit yourself until you are fully decided in your own mind; merely say, "I have not finished the examination," etc. An accurate diagnosis and plan of treatment should be made before you speak definitely. In leaving a house neighbors are liable to ask you many questions about the patient Always make it a point never to tell them anything that you have not told the friends or family.

Correct prognosis is as necessary to success as accurate diagnosis. It will be a very unfortunate thing for your reputation to have a patient get well after you have said positively that he will die. Unless absolutely certain, and forced to it, all such statements should generally be kept from the friends also. However, some of their friends should always be acquainted with the true situation. Be careful in making your statements; put the proposition negatively. Do not say: "This patient is going to die," but rather, "This patient has about one chance in four or five, or in fifty or a hundred, to live." "He will die before morning" is not so well received as, "I fear he cannot live through the night." A prominent physician of this city once attended a lady of my acquaintance who was very sick with meningitis. His prognosis bluntly stated was: "She will die," and in order to soothe the sorrow thus created he added that "even if she recovered she would be an idiot." The lady did recover, mental faculties unimpaired, and ever afterward was very bitter in her denunciation of the physician for his prognosis regarding her mental condition. A dead friend is better for a physician's reputation than a living enemy.

The honest physician is apt to be sensitive about making further visits when a case is progressing favorably, lest he should be accused of trying to make business. It is best in this matter to do what you believe is for the best interests of the patient, regardless of the number of visits. If you err it is better that the error should not be on the side of neglect. When doubtful in your own mind whether another visit is necessary, it is a good plan to say to the family: "I will call at such a time unless I hear from you," thus throwing part of the responsibility on them. If treating a poor patient, do not drop him if you find that no pay is forthcoming. If you are called to one whom you know to be a "dead beat," you may properly refuse to go, or to continue in the case after you find this out, but there is a vast differencebetween the worthy poor man or woman and the "dead beat." You have a right to insist, also, that a charity patient shall call the nearest doctor in case you are some distance from him, especially if the nearer physician is younger than yourself.

Regarding a location:—If possible settle where you wish to live and die. It is easier to establish one's self in the country than in a city. The patients who come to the young doctor in the city are usually not of a desirable class, but wherever you go, locate where there are people who have money. If in the city, seek the populous streets, avoiding the outskirts; if in the country, be sure the surrounding district is well-to-do. Do not depend on growing up with a country unless the circumstances are very exceptional and the growth very rapid.

Be systematic in your work, map out the plan for the day, in the morning, make a note of visits to be made, and after having made a call note it down at once with the amount of your charge and the time you are to return. Do not wait until evening because if you do you will be almost certain to forget something. Never be afraid to ask a patient his full name and address nor to inquire to whom you may look for your pay. This should always be learned in the beginning; it will assist you greatly in collections and will give your patrons a good impression of your business management. Remember, "nothing succeeds like success."

Charges should be moderate, at least for the first years of your practice; however, do not make them small but strike an average with the other doctors. It is generally best to adhere to regular rates and, if for any reason you wish to make a bill less, charge for fewer visits. This generally pleases the patient who is very sure to know you have not charged for all. You cannot charge the rich more than the regular prices, but can easily charge the poor for only a part of your services. After securing all the business you can manage, you may begin to increase your charges. The new rates should apply, however, only to new patients and you need not hesitate to tell those who wish your services that you will be obliged to charge more than you did formerly. Improperly kept books have been responsible for very many instances of financial failure among physicians. Post your books regularly every day, or at most, every week. If a man asks for his bill do not postpone rendering it, but send it at the earliest possible moment. Much money and many friends have been lost to physicians by neglecting this precept.

As regards collecting, observe the methods followed by the best business men of your community, not necessarily of the other doctors. In a large city it is generally best to send bills once a month, by mail, but a very few may be sent quarterly or semi-annually according to circumstances. In the country, collections cannot be made so promptly, but they must be made regularly, at least once a quarter or once in six months. If you cannot get the money take a note, or produce, or something else of value, or donate the account, but settle it and start afresh. Short accounts make long friends. It may happen that the party to whom you send a bill protests that it is too large and will not pay it all. If you have reason to think he does this as a matter of business, do not discount one iota from the account. If, however, he is too poor to pay it all make such arrangements as seems equitable and settle the account. Avoid too great personal effort in collections. If you make two or three personal calls to collect a bill the debtor is apt to think that the professional calls were worth no more than these. If a bill is not paid after a reasonable time of waiting put it in the hands of a good collector and do not complain of his fees. As a rule a collector earns all he gets. Monthly bills have a salutory effect in restraining undesirable patrons. After receiving one or two bills they do not come back unless they intend to pay. Suing for an account is of doubtful value to the physician. There may be exceptions, but generally it is best to consider the account a debt of honor. I have never yet had a case that I thought best to sue, though I have sometimes been exasperated almost beyoud endurance.

Replying to notes:—It is permisable to place upon your professional card the statement that you are specializing in a certain line, however, the specialty should be distinctly circumscribed and confined to one or two branches, but even this is considered in bad taste and borders closely on quackery. In regard to entering a specialty, the best thought of the profession is, today, that no man should take up a specialty without an experience of about ten years general practice.

It will be advisable for you to make all the social acquaintances you can, but when you are introduced do not make the mistake of presenting your professional card.

If a family desires consultation give your consent at once

If the choice of physician is left to you, select one whom you know to be competent and friendly. If they wish to call in some one with whom you cannot accord make no strong objection, but quietly state that under the circumstances you believe it would be best to withdraw from the case and let him take charge. Do this without arousing antagonism and do not show any irritation.

THE GERM OF YELLOW FEVER.

We have been much interested in the account given by Sanarelli of his bacillus icteroides, the recently announced *vera causa* of yellow fever. We have had so many announcements during the past twenty years of the discovery of this germ that we may be excused for hesitating to accept the cry, "Eureka!" Nevertheless Sanarelli's claim to the identification of the bacillus appears to have been based on satisfactory experimentation and to have met with official acknowledgment in South America, if we may credit newspaper accounts of a $10,000 premium awarded him for his discovery.

He found his bacillus mixed with the coli bacillus, staphylococci or streptococci, or he was unable to find it owing to the cadavers being invaded by other microbes which caused the total disappearance of the specific bacillus. He found it in the circulating blood and in the interior of the tissues, but never in the gastro-intestinal contents, hence he holds that the virus of yellow fever does not reside in the digestive tube but is manufactured in the organs or in the blood itself.

In plate culture in ordinary gelatin the bacillus icteroides forms roundish colonies, transparent and granular, which during the first three or four days present the appearance of leucocytes. The granulation of the colony becomes continuously more marked, and usually a central or peripheric nucleus, completely opaque, is delineated. With time the entire colony becomes opaque, but does not liquefy gelatin. Streak cultures on gelatin solidify obliquely, forming brilliant opaque little drops similar to drops of milk.

The culture on agar-agar presents, according to Sanarelli, a diagnostic means of the first importance. When the colonies are developed in the incubator they are roundish, gray, a little iridescent, transparent, with a smooth surface and regular margins; but if instead of making them grow at a temperature of 37 degrees C. they are left to grow at a temperature of 20 to 30 degrees C., the colonies are like drops of milk, opaque, prominent, and with pearly reflections, different from those developed in the incubator. This difference can be utilized by exposing the cultures for the first twelve to sixteen hours to the temperature of the incubator, and then keeping them for twelve to sixteen hours more in that of the room. The colonies then show a flat central nucleus, transparent and bluish, surrounded by a prominent and opaque zone, the whole resembling a drop of sealing wax. This character, which can be obtained even in twenty-four hours, serves to establish in the most rapid and certain manner the bacteriologic diagnosis of the bacillus icteroides. It is a facultative anaerobe, does not resist Gram's stain, slowly ferments lactose, more actively glucose and saccharose, but is not capable of coagulating milk. It strongly resists drying, dies in water at 60 degrees, and is killed in seven hours by the solar rays, but lives for a long time in sea water.

Eighteen years ago Dr. Sternberg commenced his bacteriologic investigations into the etiology of yellow fever. They were made in Havana in 1879, 1888 and 1889; in Rio de Janeiro in 1887; in Vera Cruz in the same year and in Decatur, Alabama, in 1888. He concluded that among the micro-organisms found in yellow fever cases there was not one which by its constant presence and special pathogenic power could be shown indisputably to be the specific infectious agent. He recognized however, that there was a non-liquefying bacillus, which he called bacillus X, found generally in association with bacillus coli communis and which, as it had pathogenic properties and was not found in cadavers from other diseases, he at times felt convinced was the germ he was looking for; but scientific conservatism compelled him to withhold the announcement of a discovery in view of the fact that he had failed to find it in about one-half of the undoubted cases of yellow fever which he had examined; and he adds with exceeding naiveté, in his paper for the International Medical Congress at Moscow, that there have already been so many announcements of the discovery of this long sought-for microbe by Carmona, Freire, Gibier and Findlay, the fallacies of which he had demonstrated, that he was not willing to take any chances of making a similar mistake.

His bacillus as described in these early reports is a facultative anaerobe sometimes so short that it might be taken for a micrococcus. It is often united in pairs and is pleomorphous. Its growth on the surface of glycerin agar is white, cream-like in consistency and quite abundant. The superficial colonies are circular or irregular in outline with transparent margins and an opaque central portion sometimes corrugated. They are finely granular, iridescent and of a milk-white color by reflected light, but of a brownish color by transmitted light. This bacillus grows well at 20 degrees C., but more luxuriantly at 30 to 35 degrees C. It is not destroyed by exposure to a freezing mixture of ice and salt for two hours; its thermal death-point is 60 to 62 degrees C. It is pathogenic for guinea-pigs, still more so for rabbits.

We are aware that, in the paper prepared by Dr. Sternberg for the Twelfth International Medical Congress he affirms his belief in the identity of his bacillus X with the bacillus icteroides of Sanarelli. This bacillus he obtained from yellow fever cadavers in Havana, and concerning it he reported, in 1890: "Bacillus X, I have not obtained up to the present time in any comparative researches and consequently regard it as possibly connected with the etiology of the disease. But I have not been able to obtain any satisfactory experimental evidence upon which to base a positive claim that this is tne case."

Some of the experimental evidence is opposed to the view that the bacillus is identical with Sanarelli's bacillus icteroides. Sternberg found that inoculation with the blood or the liver parenchyma of persons dead from yellow fever had no harmful effects on guiena-pigs or rabbits except in occasional cases in which the bacillus of rabbit septicemia was present. He recorded a negative, however, at the end of five or six days, but Sanarelli states that his bacillus produces a cyclic febrile disease which always ends fatally in eight to twelve days. Again, the non-liquefying bacilli are not found in sufficient numbers, nor are they sufficiently constant to give support to the view that they are the specific cause of the disease. This was Sternberg's conclusion after many examinations of liver and blood. These bacilli when found in the tissues, were found also in the alimentary canal; but Sanarelli has not found his bacillus icteroides in the intestinal contents. Sternberg concluded that they made their way from the canal to the tissues; Sanarelli, that the poison is manufactered in the blood and in the interior of the organs.

Sternberg found his bacillus X in one-half of his cases; Sanarelli his bacillus icteroides in 58 per cent. This was the *status quo* when the latter made his convincing experiments on the dog, the monkey and on man.

Sternberg holds, and apparently with justice, that the identity of the two bacilli is obvious, claiming that unless this identity is conceded it would be difficult to admit that Sanarelli's bacillus is the germ of yellow fever, for unless it is identical with bacillus X it was not present in the yellow fever cases examined by him during his extended researches in Havana.

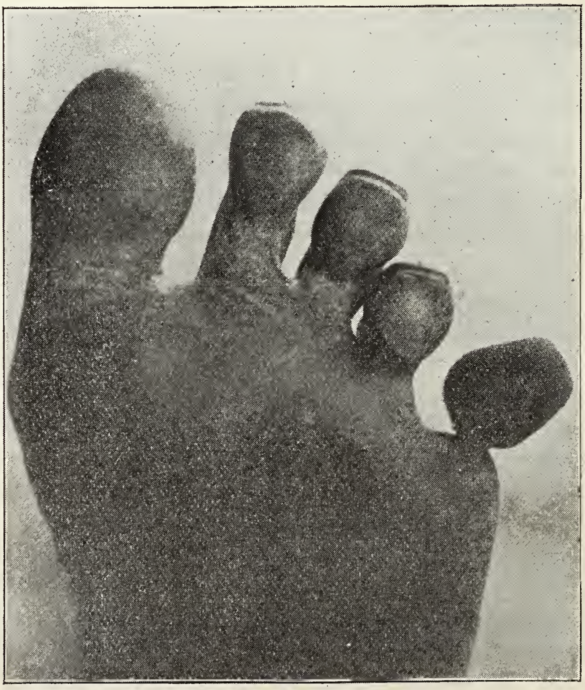
The fact that bacillus X is not destroyed by freezing is opposed to the view of its being the yellow fever germ; but the interesting observations of Sanarelli on the symbiosis of the bacillus icteroides with certain hypomycetous fungi appear to dispose of this difficulty and to throw light on many hitherto obscure matters relating to the etiology of the disease. Dr. Sternberg proposes at once resuming his experiments with the view of ascertaining whether his bacillus X has the pathogenic properties acribed to bacillus icteroides by Sanarelli; and we may add that since his departure for Moscow intravenous experiments on dogs conducted under his direction in the Army Medical Museum have given characteristic results. —*Jour. Am. Medical Association*, August 28.

ABSTRACT OF A REPORT OF A CASE OF AINHUM.

BY JAMES B. HERRICK, A. B., M. D.

The patient is a colored man, past 60 years of age. He was born in Mississippi, but came to Chicago in 1865, where he has since remained doing work of an ordinary laborer.

He came under my care in the Cook County Hospital, a few days ago, for a trifling gastro-enteric disturbance that disappeared in a few hours, under simple treatment. The examination of the patient revealed slightly sclerotic vessels, urine containing a trace of albumin and some casts, and the condition of the little toe about to be described, commonly called ainhum.



The little toe of the left foot is swollen, globular, darker than the other toes, with thickened epidermis showing markings somewhat deepened. It is attached to the main body of the foot by a slender pedicle so that the toe is loose and "wobbly." The pedicle is encircled by an ulcerating surface that is widest and deepest internally; externally it is a mere linear ulcer. There is a loss of sensation in the toe, except at the base of the ulcer. A deep prick with a pin will here cause pain. Except for the arteriosclerosis and the renal change above referred to, the examination of the patient is negative, particular care being exercised in examining for evidence of possible nervous disease. The change in the toe was first noticed by the patient about five years ago. The constriction appears to be in the middle of the proximal phalanx.

The condition known as ainhum—a "sawing"—a name given to it by Da Silva Lima, who in 1867 first accurately described the disease as it occurred in Brazil, is one whose exact pathology is not known. Especially is there a lack of knowledge of the early histologic and the neural changes. For some unknown reason the digitoplantar fold, usually of the little toe, deepens; the skin hypertrophies and becomes thicker and more horny. There is an increase in the amount of subcutaneous fibrous tissue. The furrow deepens and extends about the toe, this narrow band of hypertrophied skin and fibrous tissue encircling the digit at its base, as though a string were tied about it and slowly but surely tightened. Naturally the pressure on the nerves and vessels produces atrophic changes in the parts immediately beneath the constricting band, and degenerative changes in the parts beyond. The vessels were found by Eyles in a condition quite similar to endarteritis obliterans. The bones show a rarefying osteitis. An ulcer is commonly present late in the disease and now the condition is attended by pain. The ultimate result—in from three to ten or more years—is a spontaneous amputation of the member, usually at the articulation between the metatarsus and phalanx or that between the proximal and second phalanges. Healing rapidly follows.

Little is known as to etiology. It is commonest in males and has never been seen before the fourth year of life. It is met with almost exclusively in dark-skinned people. In South America, the West Indies, Egypt and China cases are not so very infrequent. Among the colored people of the South in this country, it is occasionally seen. The American Dermatological Association tables of statistics from 1877 to 1893 ("Transactions" for 1894), show that out of 204,866 cases of skin diseases noted by the members, not one case of ainhum is recorded. This will show its rarity. So far as I can learn from a rapid glance though the literature, this is the first case seen north of Philadelphia and St. Louis.

The toe is to be amputated and will be examined microscopically.

This brief abstract of the case that was shown at the Cook County Hospital clinic is made at the request of the editor of the Corpuscle, who thought the readers of this journal would be interested in this rare and odd condition. A more extended report of the case will be made later.

The Corpuscle.

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Ruby Red and Black: Colors of Lake Forest University. **Orange:** Color of Rush Medical College.

ANNOUNCEMENT.

After the December issue of the Corpuscle a vacancy will be created on the Editorial Board by the retirement of its senior member. Members of the present sophomore class are eligible and all, who feel themselves suited for the work, are urged to compete. Candidates are required to hand in some specimen of their work, by which the present board may judge of their competency for the position. Such writing as an editorial, a thesis, the report of a clinic, etc., are preferred and should be placed in the hands of one of the editors or in one of the Corpuscle boxes, not later than December 6.

Further information will be given to possible candidates by any member of the Editorial Board.

OUR FRONTISPIECE.

Almost every senior of last year and a great many of the lower class men know, most of them from personal acquaintance, of Dr. C. F. Lesan's "autograph chair." The chair as represented in this reproduction shows 110 names carved upon this one side and many more exist which cannot be seen from this point of view. If we have not been misinformed the more elaborate designs—Rush '97—a profile view of Prof. Senn—the class pin and the class motto "*nec temere nec timide*" were carved by Dr. W. W. Grove.

Dr. Lesan has a memorial of the class of '97 which he must prize very highly and one which, as the years go by and these same men carve their names upon fame's memorial, some still with knives, others with sharpened intellect, will ever become more valuable to him.

THOSE CORPUSCLE BOXES.

We would ask all students to notice the boxes, one in the laboratory building, and one in the clinical building, into which they can drop items of interest for publication in the CORPUSCLE. When anything happens in lecture or recitation, which would be of interest to your fellow-students just make a note of it and drop it into one of the boxes as you go by. By so doing you can help to make the CORPUSCLE interesting to yourself and to others. The editors cannot be omnipresent nor hear everything of interest about college so that if the editors alone are relied on, much of interest must necessarily be missed. With these boxes each student may contribute his mite to help make the CORPUSCLE a success. Items placed in these boxes will be collected daily and if suitable will be placed in the following number of the CORPUSCLE. We realize that this privilege can be abused, and to avoid this as much as possible, all such notes must be signed. Any notes of interest, odd sayings, "grinds," and other information will be gladly received. Let us make the CORPUSCLE a success and a credit to Rush!

OUR LIBRARY OF PATHOLOGIC LITERATURE.

Starting with his own private library as a nucleus, Prof. Hektoen has, with the assistance of the College Faculty, built up a library of considerable importance. This includes complete sets of all the most important magazines whose scope is along the lines of pathology and morbid anatomy. This list includes, at present, complete sets of the following: *American Journal of Medical Sciences*, *Annales de L' Institut Pasteur*, *Archiv fur Pathologische Anatomie und Physiologie* (Virchow's Archiv), *Archiv fur Pharmacologie und Experimental Pathologie*, *Baumgartens Jahresbericht*, *Betrage zur Pathologische Anatomie und Allgemeine Pathologie*, *Bulletin of Johns Hopkins Hospital*, *Centralblatt fur Allgemeine Pathologie und Pathologische Anatomie*, *Centralblatt fur Bacteriologie und Parasitenkunde*, "Index Catalogue of the Surgeon General's Library (U. S. A.)," "Index Medicus," *Jahresbericht fur die gesamute Medicine*, *Journal of Experimental Medicine*, *Journal of Pathology and Bacteriology*, "Transactions of the London Pathological Society (not complete)" and the "Johns Hopkins Hospital Reports."

In addition to the above are many of the best English and American medical magazines, which are not, however, in complete sets. Efforts will be made to place upon file every one of the best ones not now on file.

Prof. Hektoen will willingly grant to any one, intending to make research upon a medical or pathological subject, entrance to this collection. The corner room in the laboratory building, formerly used by Mr. Gould, has been set aside for this purpose. There is only one restriction placed upon readers, that they be as quiet as possible.

While on this subject it would not be out of place to impress upon the student mind two things: 1. That text-books give but a bare summary of the subject in hand and in order to master it he must do a great deal of outside study, working up one subject at a time. 2. To do this properly he should have a good reading knowledge of scientific German. Every scientific student of medicine realizes this. A glance at the above list of publications which is supposed to contain all the best work being done in pathologic anatomy, shows about one-half of them to be German. In almost every branch where original research is being made, Germany heads the list. Note the number of doctors who complete their medical education abroad, most of them at Vienna, Hamburg, etc.

Heretofore the three years' course, through lack of time, has prevented the doing of much of such work. Now, however, with the introduction of a four years' course no such excuse holds good and it is a man's own fault if he avail him not of this opportunity. Habits of study cultivated during these years remain with a man through life, so while at the formative period, mould yourself aright. It was for this reason that the Freer prizes were established, that, if a man would not work for the benefit which he himself would derive, at least he might in the strife of competition. A hint to the wise is sufficient.

RUSH VS. P. & S.

On November 13 the football team of the College of Physicians and Surgeons will try to make good its defeat of last year. Last year the students of P. & S. were over-sanguine. Whether or not they will be disappointed again this year can be told more definitely on the 13th. It may be well, neverthee ss, to place before our readers, as well as is possible at such an early date, the standing of the two teams as they will line up on that day.

The Rush team was probably weakest at center last year. Cory will strengthen this point very materially. In fact the Madison men admitted that he played a better game than their man Hazard. At Notre Dame the students on the side lines kept asking why their center did not play as well as usual. Myers, the P. & S. center, is very heavy but is inclined to be slow. Pinkerton, who played that position in the Iowa game, is a new man at P. & S. He seems to have played a stronger game than did Myers at Illinois. Husk, who plays right end for P. & S., is an old student there and will stand opposite Captain Grasse. Any one who has watched the Captain play knows that he is hard to tire out. Dowdall will play opposite Sheldon. Dowdall is a good man who played last year on the University of Wisconsin team. Sheldon, who played end for Wisconsin for years, is a wonder at tackling. Every one in Rush who has seen McCormick of P. & S. play, knows that he is one of the strongest men on their team. He will probably be met by Farr or Freeman. Farr has been playing a strong game this year. You can still hear them telling at the school up the street what a fiend Freeman is. Flippin, "Old Flip" who played half for Nebraska for years, is a very strong man, especially good as a ground gainer. He is playing tackle now for P. & S. and will probably play against McBride who formerly played half for Ann Arbor. Krotler and Carr of P. & S. will probably play against our guards, Foley and Walsh. The Rush center trio has received praise in every game and is thoroughly to be depended on. Washburne, of Purdue, who has been playing quarter for Rush, has proved to be a very quick and steady man. The P. & S. quarter, Turner, is one of their strongest men. He formerly played with Princeton. Wymkoop, of De Pauw, Weakley, Kohler and Blaney will play behind the line for P. & S. The first three are strong but there has been considerable dissatisfaction expressed in regard to Captain Blaney's playing this year. He is said to be slow getting off. Rush has a list of stars for backs. They are Libby, Tobin who is a sure gainer, Thompson of Wisconsin, Bothne, Robinson and Wellington. Bothne is one of the strongest men that ever played on the Rush team. Rush men know all about Phil, "Curly" and Libby.

It was hoped that the P. & S. vs. Wisconsin game would give an idea as to how the teams of the two medical schools compare, but as that game was not played it is difficult to note the comparison. P. & S. was defeated by Illinois but beat Iowa badly. The Rush team proved greatly superior to the Notre Dame team, and that team has been defeating some very strong opponents. Rush also defeated the Congregational Theological Seminary by a score of 16-0. Rush has only been scored against once this year and that was the first game.

OUR STUDENTS.

It may be of interest to our readers to learn how many new students have entered Rush this year and also whence they come. Rush has enlisted 212 new men this year. Of these, 144 comprise the freshman class; forty-eight have entered the present sophomore class; nine have come from other schools to enter as juniors and twenty-one have added their names to the list of seniors.

Of this number: Illinois sends 123; Wisconsin, 31; Iowa, 17; Indiana, 10; Kansas, 5; Minnesota, 5; Ohio, 4; South Dakota, 4; Missouri, 5; Nebraska, 3; Michigan, 3; New York, 2; Pennsylvania, 2, and each of the following, one each: North Dakota, Rhode Island, Texas, Wyoming, California, Montana, Ontario and England.

Of the 144 in the freshman class, sixty-nine were admitted on high school diplomas while the remaining entered on college degrees or on one, two, or three years of preparatory work.

Among the colleges which sent us men for this class are: Ripon, Dixon (2), Luther, St. James Academy, Wabash College Preparatory, Mayville Seminary, Knox College (3), Armour Institute, Wentworth Academy, Atheneum (2), University of Illinois (5), Midland College, Grand Prairie Seminary (3), Battle Creek College, Whitewater Normal, Oberlin, Bushnell, St. Francis, Chicago Business College, Lawrence University, Bethany College, Burlington College, Morgan Park Academy, Drury Academy, Peru Normal, Oshkosh Normal, Stoughton Academy, Jenner Medical College, Shelbina College, Wheaton, Sacred Heart College (2), University of Virginia, Kenyon Military Academy, Cornell College (Iowa), Eureka College, St. Bede, Northwestern University (2), and Illinois Wesleyan.

Of the forty-eight men entering the sophomore class, nearly all are degree men. Among the colleges from which they come are: Coe College (3), Chicago College of Pharmacy (3). Northwestern University Medical School (3), Ohio Wesleyan University (2), Hanover College, Ohio Normal, Northwestern School of Pharmacy (2), Iowa City Medical, University of Michigan (4), University of Wisconsin (6), St. Mary's College, Ontario Veterinary (2), Monmouth, College of Physicians and Surgeons (City), Purdue University (2), University of Chicago (2), St. Ignatius College, College of Physicians and Surgeons (Keokuk, Iowa), University of Minnesota (2), Jefferson Medical, Iowa State University, Des Moines College, Toronto Medical, Parson's College.

Of the nine new men in the junior class, three are men who have transferred from the Northwestern University Medical School, two from the University of Michigan, Medical Department, one from Columbia (New York City), one from Baltimore Medical College, one from Omaha Medical College, and one has returned to Rush after being out for one year.

There have matriculated this fall, as members of the senior class, about sixty men, an increase of about twenty-five over the number last year in the class. The senior class, it must be remembered, owes its small size to the change from a three to a four year course of study, which change was inaugurated in the fall of '95. That fall all students entering Rush entered on a four years' course with the exception of those who held a degree from some accredited literary college and those who had made a preliminary study of medicine. That year the '98 class numbered about forty and nearly thirty of those are still with us. In addition there are a number who entered in '94, and twenty-one who have entered this fall from some other medical college in order to get a degree from Rush.

The following universities and colleges are represented by members of this class: The University of Wisconsin sends six, the University of Michigan, Harvard University, Iowa College, (Grinnell), Chicago College of Pharmacy, Philadelphia College of Pharmacy and Northwestern University Department of Pharmacy, two each; Sheffield Scientific School (Yale), University of Chicago, Bowdoin, Wooster University, Wabash College, Eureka College, St. Ignatius College, Parsons' College, and Lawrence University, one each.

The degrees held and number of each are: Bachelor of Science, 7; Bachelor of Arts, 8: Bachelor of Philosophy, 1;

Graduate of Pharmacy, 9. This does not include the new men who have entered this fall, all of whom are from some other medical college. Those represented are: Northwestern Medical (2); Hahnemann (3); College of Physicians and Surgeons (New York), College of Physicians and Surgeons (Chicago), College of Physicians and Surgeons (San Francisco), Jefferson Medical College, Bennet Medical College, Homeopathic College (State University of Iowa), and Dunham Medical College, one each; College of Physicians and Surgeons, Keokuk, Iowa, (3); Chicago Homeopathic College (3); Eclectic Medical, Cincinnati (2). Eleven of this number are practitioners.

HEARD ABOUT COLLEGE.

Dr. D. A. Angus, '96, is Lecturer in Physiology at Harvey Medical College.

Dr. H. G. W. Reinhardt, '97, can be found at Suite 309, Medinah Temple, Chicago.

Dr, J. F. Mann, '97, has located at Glen Ellyn, Ill.

Dr. O. Hanson, '97, is practicing with his father at Argyle, Wis. He visited Rush recently.

Dr. C. L. Losey, '97, is located at 65 Randolph Street, Chicago.

Dr. Joe Carney, '97, was seen at Rush recently.

Dr. E. A. Johnson, '97, now located at Mahomet, Ill., was in the city with a patient October 19 and 20. He reports good business in his line.

A Luckey boy—To Dr. and Mrs. J. E. Luckey, Vinton, Iowa, a son, August 9.

H. G. Vaughn, 1901, is one of the new student assistants in chemistry.

Notice:—At the hour and place of the clinic in skin and venereal, gentlemen will kindly refrain from removing their coats.

Dr. M. J. Schjelderup, '97, was recently married to Miss Sylvia Odegarde. He is practicing in Minnesota.

Dr. H. Bailey, '97, has been so successful at Charles City, Iowa, that he is this year carrying on post-graduate work in Chicago.

Dr. A. E. Kauffman, formerly quiz-master and instructor in chemistry, has located in Parkersburg, Iowa. We are sorry to lose the Doctor, but prophesy his success.

Dr. W. J. Butler, formerly interne in the Presbyterian Hospital, has returned from Europe and takes the place vacated by Dr. Kauffman.

Dr. W. A. Foskett, '97, has opened offices at 1556 Milwaukee Avenue, Chicago.

Prof. Hamilton returned October 22 from a trip to New York and Washington.

Dr. Oliver, '96, was about Rush recently, having brought to the city a case which proved to be inoperable osteosarcoma of the ileum.

Dr. Witte, ex-interne of the Presbyterian Hospital, has been on a hunting trip in Michigan since leaving the Hospital.

Dr. H. H. Boschelle, '95, Melvin, Ill., was in the city recently with a patient.

Dr. Casper G. Hanawalt, '97, is practicing at Mazon, Ill.

Dr. R. E. Schultz, '97, reports a growing practice at Gifford, Ill.

Dr. W. G. Hatch, '97, wrote from Prairie City, Ill., under date of October 2. He is well satisfied with his location.

Dr. Crocker, '97, has fitted up an office in Springfield, Ill.

Dr. E. L. Overholt, '97, visited "Old Rush" recently.

Dr. John D. Freeman, '97, entered on his duties as interne in the Presbyterian Hospital, Oct. 1.

Prof. Bridge is Attending Physician on the medical service in the Presbyterian Hospital.

Dr. C. M. Proctor, '97, has located at Helena, Mont.

Dr. N. M. Whitehill, '97, reports progress from Garwin, Iowa.

Dr. H. W. Wardle, '97, has remained in Chicago and has an office at Armitage and Nebraska Streets.

Dr. W. F. Stokes, '97, is still seen a good deal about college, as he assists in the medical clinic of the Dispensary.

Dr. J. T. Speck, '97, has also located in this city. His office is at Chicago Avenue and Lincoln Street.

Dr. J. C. Powers, '97, has been remarkably successful the past summer. He has a thriving practice at Hampton, Iowa.

Dr. F. E. Bigelow, '97, remained in Chicago to practice. His office is at 3904 Cottage Grove Avenue.

Dr. A. E. Smolt, '97, writes from Stillwater, Minn., that he is serving an interneship in the City Hospital and will remain there until July 1, 1898. He wishes the CORPUSCLE success.

Prof. Etheridge returned October 18 from a trip East, then home via Nashville, Tenn., where he met Prof. Stehman and party to enjoy a short sojourn at the Exposition. Dr. Stehman was present at Nashville for the Chicago Day exercises.

Prof. Arthur Dean Bevan was recently elected second vice-president of the American Academy of Railway Surgeons at their meeting in Chicago.

Prof. Senn's clinic was upon the program of events scheduled for the American Academy of Railway Surgeons during its recent meeting in this city. The surgeons filled the first three rows in the amphitheatre and seemed to enjoy the operations as only surgeons can.

Word has reached us of Dr. F. F. Bowman's success in competing for an interneship in the Milwaukee Emergency Hospital. Dr. Bowman entered on his duties the first part of the summer and is doing splendidly. We hope Milwaukee will be to his taste.

Dr. C. H. Searle, '98, passed the State examination last spring and has an office at 166 North Avenue in the Kemper Building, Suite 2. He still attends a few courses at Rush, but practice keeps him very busy.

The Junior class has begun its work in physical diagnosis under Dr. Corwin. He has divided the class into nine subclasses, thus giving each student ample opportunity to become familiar with the work.

In our editorial on the "Rush Monument Fund," last month, we neglected to state that Rush last year donated $100 to the fund. Please make note of it, remember it and then reread the editorial and make your contribution.

Professor (examining consultant about case of lead poisoning):—"Do you find a blue line about the patient's gums?"

Consultant:—"Yes sir, very distinctly."

Patient:—"Here dey are doctor" (taking out his teeth).

In anesthetizing do not try to get a pupillary reflex from a glass eye. It cannot be done. Student ——— can tell you that.

Senior chest, throat and nose:–"The etiology of pulmonary bronchitis?" "Very bad, especially in children and the aged."

Attention artists!—A new color has been discovered. Mr. ———, the pathologist, has recently found that colloid material has a jelly-like color. Rush is proud of the original research work on the part of her students.

Freshmen who are wise and like good marks in chemistry should see that they know the action of oxidizing acids upon metals, e. g., nitric acid upon copper. One hint should be sufficient. Better men than they have been tripped up.

Report has it that Willie Ware, after his election to the office of Sergeant-at-arms, last week, dragged all his supporters to the corner saloon and treated them to two glasses of milk and a cigarette apiece.

Heddens can not be feeling well this month. He has not knocked out any more lawyers as yet.

Prof. Senn (showing case in clinic): "How old are you, my boy?"

Boy: "Six dollars."

Prof. Senn: "You see the boy has no sense."

(Boy slaps Prof. Senn's face).

In last month's issue the types made us say that the Rush men could join the gymnasium class at the Dental College for $20. The amount stated was rather large and should have read $2.

The members of the football team have been allowed to do their dissection early so as to have more time in the afternoons for practice. They have all finished the work and will consequently play with less upon their minds.

We have many learned professors, but the name that Gus has earned for himself as a preparer of bones is not the least thing we have to be proud of. The students of P. and S. have found him out. One of the students of the above college was showing the writer a very fine white skeleton. He obtained it at Rush by representing himself as a Rush student and paying the regular $12.00 deposit. He said that the skeletons furnished elsewhere crumbled and were in many ways inferior to those prepared by Gus.

Dr. Slaymaker has charge of the junior special class in medicine. Hereafter it will meet on Tuesdays and Thursdays at 1 P. M. This class is for the juniors who have sophomore anatomy at the hour of the regular medicine quiz.

The special class for juniors who are taking sophomore anatomy meets Dr. Olney on Wednesdays and Saturdays at 1 P. M.

H. B. Cragin, '99, has been in St. Anne's Hospital at Anaconda, Mont., for the last month. He has a very good position as surgical dresser and will also assist at the operations. He promises to be back in school next year and to work even harder because of his vacation.

Otto has a unique grievance against Mr. Leutgert. He asserts that at no other time have the boys bought so many papers. As the college furnishes no waste-baskets and the papers make good missiles, the janitors have extra work put upon them. We suggest as a means of settling this long-drawn-out trial, that a few Rush janitors be put upon the jury.

Dr. Byron Robinson believes that America's surgeons should be more appreciated and that the lack of knowledge regarding our great surgeons is because those of Europe have had, by various methods, all eyes turned on them. Perhaps "distance lends enchantment to the view;" at any rate, Dr. Robinson has the right idea and we hope he will succeed in showing we Americans that the enchantment is at home. He has already written up the work of Senn, J. B. Hamilton and Fenger, while that of Murphy and the others soon will be.

Dr. M. Tessler, '97, located at St. Paul, Minn., says: "Make it known to that distinguished class of '97 that every one of us who took the Minnesota State examination was successful."

Van tells us that "upon menstruating the chest in emphysema it is found much enlarged."

"The Physiology and Therapeutics of the Thyroid Gland and its Congeners," the thesis awarded the L. C. P. Freer Medal, 1897, the work of H. Gideon Wells, A. B., '98, is now being published in the *Journal of the American Medical Association.*

The CORPUSCLE is now mailed to regular subscribers on the same day it is placed on sale. Thus students will not only save money by subscribing in advance, but there will no longer be any delay in their receiving their copies. Subscriptions may be handed to any member of the Editorial Board, the Manager, or mailed to C. E. Judd, 93 Flournoy Street, Chicago.

Students will find no more satisfactory houses to deal with than those whose advertisements appear in the CORPUSCLE. Patronize them and tell them where you saw their "adv." In many cases a percentage is allowed Rush men.

THE SENIOR CLASS ELECTION.—The Class of '98 was always an unusual class, and its reputation is unchanged. The class election was begun and finished in the same short afternoon, Monday, Oct. 18, with one hour taken out for Prof. Senn's lecture. The first business to come before the class was the amendment of the constitution to suit the need for more class day officers. This was speedily accomplished, the class accepting the report of the Committee on Amendment with the slight exceptions of omitting the class day chaplain from the list of officers, of having one instead of three vice-presidents, as proposed, and of combining corresponding and recording secretaries into one office. The class immediately proceeded to the election of officers, President J. A. Little presiding, and in the order voted upon the following men were elected: President, F. B. Hollenbeck; vice-president, E. A. Irwin; secretary, R. L. Whitley; treasurer, H. W. Abraham; valedictorian, H. G. Wells; poet, E. V. L. Brown; essayist, C. J. Rowan; prophet, J. E. Harris; chorister, F. J. S. Conlan; sergeant-at-arms, H. A. Ware; toaster at alumni banquet, R. W. Webster. The historian, Mr. H. J. Dern, was elected at a meeting of the class last year.

A number of men who entered with the Class of '97, but who contemplated staying four years, are back again this year. Among the number are: T. F. Butzow, J. H. Bradley, H. Hanstein, G. L. A. Hamilton, F. Hoffman, E. M. D. Libby, C. H. Searle, F. W. Stevens, T. J. Walsh and C. E. Judd.

The '98 Cook County Class has been reinforced by a number of seniors, all of them very good men. At present the class numbers eighteen, viz.: H. E. Allen, '98; M. A. Austin, M. D., '97; J. Bourke, M. D., '97; O. A. Burton, '98, P. and S. (N: Y.); H. Dietrich, '98 (Chicago Medical); E. A. Irwin, '98; H. Klein, M. D., '97; A. D. Kohn, '98; E. M. D. Libby, '98; E.

L. McEwen, M. D., '97, and Fellow in Chemistry; T. A. Page, M. D., '97; F. E. Pierce, '98; C. J. Rowan, '98; P. E. Somers, M. D., '97; A. F. Stevenson, Jr., '98; R. Van Sands, M. D., '97; R. W. Webster, '98; and H. G. Wells, '98.

The police have again been urged to renew their search for Louis Mowry, the Rush Medical College student who disappeared October 4. Mrs. L. D. Mowry, of Sturgeon Bay, Wis., mother of the young man, called at detective headquarters and asked that every effort be made to find her missing son. From a diary left in his room at 707 West Harrison street it was learned that the young man had been ill and physicians believe he was delirious either from typhoid or brain fever. The missing man is a son of L. D. Mowry, a prominent citizen of Door County, Wis. Young Mowry is 26 years old. He attended the Northwestern University Medical College last year.—*Chronicle*, October 19.

ATHLETICS.

On October 13, Notre Dame, the score was: Notre Dame 0; Rush 0. Libby carried the ball around the end for a touchdown. Umpire Herring, who by the way, is the Notre Dame coach and told the men from the field what plays to make, brought the ball back on an alleged forward pass. Cory and his guards walked right through the blue's center. The only one who could stop Wellington was coach—umpire—Captain Herring. Excepting a very short time the ball was on Notre Dame ground.

In the second half Herring got excited and struck at one of the Rush men. As if by signal the students crowded over the ropes and took matters into their own hands. Captain Grasse was struck from behind and the rest of the players were crowded upon. Things looked interesting for a time and there is no telling when it would have stopped had the priests not taken a hand and called the students from the field.

The Notre Dame authorities apologized after the game and promised that the leaders of the assault should be expelled. The Rush team will not venture down to Notre Dame again.

On October 16, the St. Charles' game was not called till half past four, owing to a delay to the Rush team. As it was getting dark only twenty and fifteen minute halves could be played. At no time was the Rush goal in great danger. Time was called at the end of the last half with the base within a yard of the St. Charles' goal.

Powers, formerly of the C. A. A., who played left guard for St. Charles, played the best game against the Rush men. He did not find Foley easy to get through, however.

Grasse made some very pretty gains for Rush as did Thompson and Eignus. Thompson failed to kick goal, making the final score, Rush 4; St. Charles 0.

Wisconsin 28, Rush 0, does not at all represent the game as it looked from the side lines. Cory, with his two heavy guards, forced the Wisconsin center back time after time. Wisconsin made no long runs but worked the ball slowly down the field. At the end of the first half the ball was moving along rapidly toward Wisconsin's goal. Individually the members of the Rush team compared favorably with the Wisconsin men, but as it was our first game the interference was weak. Unless Wisconsin braces up she will have a busy day when she plays Minnesota.

The collection of the subscriptions made last spring by the students goes very slowly. The team has been under heavy expense for suits and grounds and needs, very much, what help the students can offer. Let every man have enough college spirit to support the team cheerfully.

BOOK REVIEWS.

TUBERCULOSIS OF THE GENITO-URINARY ORGANS, Male and Female. By N. SENN, M. D., Ph. D., LL. D., Professor of Surgery and Clinical Surgery, Rush Medical College; Attending Surgeon to Presbyterian Hospital; Surgeon-in-Chief, St. Joseph's Hospital, Chicago, etc. Illustrated; pp. 311. Philadelphia: W. B. Saunders, 1897. Price $3, net.

The world of medicine—even more the students and alumni of Rush—need only the knowledge that a new book has been written by Professor Senn to feel assured of its value. This latest work is a companion piece of "Tuberculosis of Bones and Joints," which recently appeared, and is written in the same masterly style. The print is large, the paper fine, the illustrations numerous, well executed and largely original. That the content matter is good, need not be said.

The author divides the consideration of the subject anatomically. He first takes up the special male organs, then the female organs, and lastly the organs common to both—treating each exhaustively.

Heretofore little attention has been paid to this branch of tuberculosis and many lesions, occurring in these parts, have been ascribed to syphilis or carcinoma, which, if properly examined microscopically, would have shown characteristic tubercles. From 1 to 8 per cent. of all women having pulmonry tuberculosis have been shown by different statistics to have secondary lesions in these organs. With a more thorough examination in the future the ratio between tuberculosis in these and other parts will undoubtedly prove much greater and the subject will become proportionately more important.

Professor Senn has aimed to place the entire available clinical material upon an etiologico-pathological basis. He has quoted extensively from eminent authorities of this country and the continent, and to this has added the results of his own rich clinical experience, all of which goes to make this a most thorough treatment of the subject matter. It will prove a valuable addition to the library of student or practitioner, and as it takes up the subject so exhaustively, will undoubtedly be the authority for many years.

NOTES ON PATHOLOGY. For Students' Use. By W. A. EVANS, B. Sc., M. D., Professor of Pathology, Medical School of the University of Illinois; Professor of Pathology, Milwaukee Medical College, etc. Chicago: The W. T. Keener Co., 1897. Price, $1.50, net.

This interleaned book occupies a position midway between a text-book and a quiz compend or syllabus. The author has boiled down and put into his own words, ideas gathered from many of the best text-books in pathology, among them Zeigler, Green, Hamilton, Cabot, etc. In places the ideas seem too simply expressed; in others, the sentences are slightly involved, though not sufficiently to obscure their meaning. On the whole, it gives the principles of general and special pathology concisely and simply. The consideration of each subject is arranged under the headings: Hint on the Histology, Causes, Anatomy and Philosophy of the Process. The student will find it useful, either before studying a subject in a textbook, to grasp the underlying principle, or after studying it, to recall the drift of the subject and to record upon the interleaved pages, particular points. The book is a ready-made "Notes on Pathology," with room for the student's individual notes—a convenient arrangement—and is just small enough to fit into a coat pocket.

CRIME AND CRIMINALS. By J. SANDERSON CHRISTISON, M. D., Cloth, $1. Chicago: The W. T. Keener Co., 1897.

Dr. Christison does not offer this little book as a systematic treatise on the subject of criminology. It is merely a series of articles which the author contributed to the public press last winter, gathered together in book form and illustrated. While very interesting to the physiognomist, the subject of degeneracy in its relation to crime is little benefited.

ODE TO SYPHILIS.

BY J. A. O'NEILL, M. D.

I.

Penis
Stainless,
Pimple
Painless,
Indurated at its base;
Bullet
Bubo,
Indo-
lento
Three weeks after the fall from grace.

II.

Pyrexia,
Cachexia,
Persistent
Anorexia,
Macules mottle the body o'er;
Glands
Erratic,
Signs
Lymphatic,
Six weeks after the primary sore.

III.

Periostitis
Synovitis,
Faded macules symmetrically placed;
Alopecia,
Chancre
Easier,
Ere roseola's quite erased.

IV.

Mucous patches,
Cicatrix matches,
Rupial ulcers 'round each knee;
Pains nocturnal,

Gummata
Internal,
Two years after that fatal spree.

V.

General paresis
Speech embarrasses,
Maudlin sorrow soon brings tears
Pupil discloses
Spinal sclerosis,
Tabes dorsalis in later years.

Albany Medical Annals.

STATE BOARD OF HEALTH REQUIREMENTS.

At the regular quarterly meeting of the Illinois State Board of Health, held at the Great Northern Hotel, Chicago, October 5, 1897, the following resolutions were passed:

Resolved: That after May 1, 1898, all non-graduate applicants for license to practice medicine and surgery, who are examined in accordance with the provisions of the Medical Practice Act, in addition to the requirements already exacted, must present as evidence of a satisfactory preliminary education, either,

1st. A diploma or certificate of graduation from a high school.

2nd. A certificate of having passed the matriculation examination to a recognized literary or scientific college.

3rd. A certificate of successful examination by the faculty of any reputable university of arts or science (not members of a medical college faculty), by the State Superintendent of Public Instruction of Illinois. or by the Principal of a High School in Illinois, in the following branches: English grammar, Arithmetic, Elementary Physics, United States History, Geography and Latin (equivalent to one year in a high school).

Each candidate will also be required to present a certificate from a medical college in good standing with this Board, attesting that the applicant has,

1st. Pursued the study of practidal anatomy in said college for at least one term and has made dissections of the entire cadaver.

2nd. Taken at least one full course in operative surgery and practiced obstetrics.

3rd. Personally attended six or more cases of labor.

Bacteriology has been added to the subjects of the non-graduate examination.

Alumni Department.

JAMES B. HERRICK, A. B., M. D., EDITOR.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to The CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Chicago.

Dr. T. W. Nuzum is at Broadhead, Wis.

'91. Dr. Jacob W. Wells is at Ossian, Iowa.

'95. Dr. H. B. Bartholomew has been heard from at Denver.

'85. Dr. Chas. Schafer has moved from Franklin, Sheboygan Co., Wis., to Sheboygan in the same county. "There is no medical journal I read with so much interest as our college paper."

'96. Dr. M. D. Bird has moved from Oconomowoc to Marinette, Wis.

'76. Dr. D. H. Bowen of Waukon, Iowa, represents the eighty-seventh district in the Iowa House of Representatives.

Dr. R. Broughton, Dwight, Ill., writes: "It would be worth a year's subscription if in some number you would print the names of all the graduates of Rush, with year of graduation. That would be almost as good as a dictionary to the Rush boys." Dr. Broughton can find such a list in the Seventeenth Triennial Catalogue of Rush Medical College. This can be obtained by applying to the College Clerk.

'78. Dr. A. W. Bowman "can't get along without the CORPUSCLE. Would be glad to visit "Old Rush" again but am too busy."

'71. Dr. O. W. Connell wishes Rush prosperity, from Knoxville, Iowa.

'96. Dr. Franklin Emmett Wallace was united in marriage to Miss Helen Edwards Dean, Thursday, October 28, at Monmouth, Ill. The young couple will continue to make Monmouth their home, where Dr. Wallace will enter into the practice left by the death of his father. Dr. Wallace only recently completed his service as interne at St. Elizabeth's Hospital.

The marriage of Dr. Joe Reed Crowder to Miss Ada Wilkey took place August 25, at Vincennes, Ind. The doctor and wife are at home at Sullivan, Ind.

'95. Dr. F.D. Hollenbeck, late house surgeon at St. Luke's Hospital, has opened an office at 205 North State Street, Chicago.

'95. Dr. Russell Burtom Opitz, who has been studying[at the University of Chicago since his graduation, received his degree of S. B. at the last convocation. He is engaged at present in investigations relating to his thesis for the master-degree in physiology. Dr. Opitz is very active in the life of the University and is one of the most popular students. He is a member of the "Sigma Chi" and "Theta Nu Epsilon" fraternities.

JUNCTION CITY, KANS.

Dear Doctor:—My troubles have been multiplied since we met in '96. In April of this year I was elected mayor of Junction City; that in connection with my practice, and other duties, has left me little time to roam around. Should you or any of the class of '86 come to Junction City, you shall be accorded the freedom of the city. Yours for "Old Rush."

P. DAUGHERTY, M. D.

P. S. The CORPUSCLE is a daisy.

ELLIOTTSTOWN, ILL.

Dear Doctor:—I am pleased to know of "Old Rush's" prosperity. Long may she wave! I was much grieved on hearing of Mr. Gould's death. I should hardly feel at home at Rush now. Peace to his ashes.

T. J. DUNN, M. D., '81.

DEATH OF DR. HELM.

We quote the following from a Phoenix, Arizona, journal: "One of the saddest events which the newspapers of this city have been called upon to chronicle for many months occurred last evening at the M. & P. depot in this city. A large crowd had assembled there to bid Godspeed to the Elks, who were about to leave on an excursion to Tucson, and among them was Dr. Scott Helm, a member of that order. The Doctor rode his high-strung saddle-horse, which had not been under the saddle for several weeks and was full of life. It would not stand still for a moment and while the Doctor was talking with Secretary Akers it kept nervously backing and siding until the Doctor suddenly pulled it off its feet in an effort to stop it from moving too far away. As the horse rose on its hind feet its head came in contact with a telegraph post with such force as to stun it and it fell to the ground.

The doctor was thrown with great force from the saddle, striking the ground on the back of his head, with the horse on one of his limbs. Mr. Akers at once ran to his assistance, as did a number of other gentlemen present, among them Dr. McIntyre. The injured man was carried to the platform, where Dr. McIntyre, who was soon joined by Drs. Duffield and Wylie, did everything possible for him. The injury was to the base of the brain and was at once seen to be fatal and the patient beyond earthly aid. He was placed on a cot and tenderly carried to his home, where he died, never having regained consciousness.

Scott Helm was born in April, 1861, and was therefore but a little over 36 years of age. He comes from a noted family of physicians and surgeons, his grandfather having been one of the most noted members of his profession in the State of Kentucky, and an uncle now living in Indiana has been one of the most famous practitioners in that State for forty years. Scott Helm's father, Judge H. T. Helm, of Chicago, and a quite noted member of the bar of that city, was anxious to have Scott study law, but the boy's whole bent and inclination was toward medicine, and when about fourteen years of age he went to live with his grandfather in order to study his chosen profession. He was really a good doctor long before he ever entered any medical college; he entered Rush Medical College when a mere youth, and was graduated second in his class, and also the youngest member of his class, being but 19 years old at the time of graduation.

After finishing his course at Rush he went to Heidelberg, Germany, where he took a post-graduate course in that famous institution of learning, being the second ranking man in a large class, at the close of the course.

Returning home, he took the examination for entrance into the Marine Hospital Corps. Five vacancies were to be filled and there were twenty-seven applicants to take the examination. Although the youngest man in the lot, Dr. Helm ranked second in the examination, the only one having a higher percentage being a practitioner of ten years experience and also a graduate of Heidelberg.

After several years' experience in the Marine Hospital Corps, the Doctor resigned and located in Chicago. Although still a very young man he soon built up an extensive practice. In 1887, while performing an operation for removal of a tumor, he accidentally pricked his left hand with a needle. Semi-blood poisoning followed, and his decline was so rapid that in the early summer of 1888 his life was despaired of.

Having made a trip or two before into New Mexico and northern Mexico, he learned something of the wonderful climate of Phoenix and the Salt River Valley, and so came here in August, 1888, in the hope that the dry clear air of Arizona might restore him to health. On reaching Maricopa he was so weak and emaciated that he doubted if he could survive another day and chartered a special engine to bring him to Phoenix so that in case of death his remains could be properly cared for. His recovery here was very rapid and within a few months he was as hearty and vigorous as at any time in his youth and remained strong and well to the time of his sudden death.

Dr. Helm was a man thoroughly in love with his profession. It is said of newspaper men and actors that they are more devoted to their professions than men in any other calling in life, but certainly no man in either of these walks of life was more devoted to his calling than was Dr. Helm to the practice of medicine. His love for surgery was intense, and the perfoming of a delicate surgical operation was to him one of the greatest pleasures of life, and his success in this class of work was remarkable.

He was a man who exemplified in his every-day life a belief in the universal fatherhood of God and the universal brotherhood of man. No matter how hard worked or how much in need of rest, no reasonable call was allowed to go unheeded, even though it came from the poorest beggar in the land. The extent of his charity practice was enormous, as it was a cardinal principle with him that his duty as a man and citizen required him to respond to all calls of the sick and afflicted.

Dr. Helm was twice married. First in February, 1890, in this city, to Miss Norma Jackson, one of the greatest social favorites who ever graced Phoenix with her presence. Her death occurred April 30, 1891. Dr. Helm was again married in November, 1892, to Miss Janie Beeler of Louisville, Ky., who survives him.

The remains will be buried in the uniform of Surgeon-General, retired, which honor was obtatned by Dr. Helm some years ago. Over the uniform will be placed the flag of the hospital corps and all enfolded in an American flag.

DEATH OF DR. W. H. VEATCH:—Dr. W. H. Veatch, father of De Laskie M. Veatch, of this city, died at 3:30 o'clock Sunday morning at the family residence in Carthage. He had been suffering from a gradual but complete break-down of the nervous system, dating back to February last. In April he went to the magnetic springs at West Baden, Ind., but his case was beyond relief. On August 20 he was confined to his bed, and from it he never rose again. He suffered a great deal in the last few months but his end was peace.

Dr. Veatch was born in New Albany, Ind., August 19, 1831, and came to Illinois with his parents when a small child. He was a graduate of Rush Medical College and practiced medicine for more than forty years. He located in Carthage in 1880 and was for a long time identified with the Lutheran College there as Professor of Hygiene. He was twice sent as a delegate to the National Medical Association convention—the last time being when the gathering was held at Baltimore.—*Quincy* (*Ill.*,) *Herald*, October 11.

DEATH OF DR. MUNCEY:—Dr. James Muncey, Jesup, Iowa, died October 1, 1897. The Doctor was confined to his bed but six days. He was graduated from Rush in 1863, and was 80 years old the 17th of last May.

WITH OUR EXCHANGES.

Dr. Etheridge, of Chicago (*Prac. Med.*) says that when a woman complains of a dull, steady boring pain at the lumbrosacral junction, you may rest assured she has uterine disease. —*Med. Times*, October, 1897.

Nitric Acid on Sawdust.—Strong nitric acid has set pine and sawdust afire in three minutes by simply saturating the sawdust with it. Hence, when nitric acid is spilled upon woodwork there is danger of fire, and the acid should be neutralized immediately with ammonia.—*Western Druggist.*

Dr. Francis R. Packard writes in the *Journal of the Amer. Med. Association* that the first medical degree granted in New England was an honorary one, bestowed on Daniel Turner, of Connecticut, by Yale College in 1720. As this was intended as a token of gratitude for Dr. Turner's liberal gifts to the college, and not as a reconition of any particular fitness on his part to practice medicine, a wit of the time interpreted M. D. to signify multum donavit—he has given much.

There are 8,232 medical students in the twenty-one German universities.—*Lancet Clinic.*

To Prevent Sleep Walking.—An excellent remedy is to scatter carpet tacks on the floor with their business ends pointed heavenward.—*West. Med. Review.*

Outing for October appears in brilliant cover, while its contents is sure to find for it new friends. Of marked interest is the "Review of the Football Season of 1896," by Walter Camp. Other articles are: "The Cyclists' Annual Frolic;" "Beginnings of Fox-Hunting in America;" "A Day With the Cottontails;" "An Adirondack Buck;" "Four Days on the Prairie;" "The American-Canadian One Rate, Contests;" "The International Tennis of 1897," and a "Monthly Review of Amateur Sports and Pastimes."

A new publication, the *Amer. Jour. of Dermatology and Genito-Urinary Diseases* is edited by S. C. Martin, M. D., St.

Louis. The October number bears the imprint Vol. 1, No. 4. The subscription price is $1 per year.

HE OUGHT TO KNOW.—The new house surgeon, having examined the injured man, said to his wife: "I fear your poor husband is dead." "No, I ain't," said the supposed corpse. "Hush, John, be quiet," said the wife, "the gentleman must know better than you what's the matter with you. —*Chicago Medical Recorder.*

A doctor in England has the following printed on his prescription blank: "Gratefulness of the patient is part of his disease, most prominent when the fever is highest, lessens during convalescence, and disappears as health is re-established. Hence, prescriptions only for cash."—*Jour. Med. and Sci.*

DISINFECTION OF STEEL SOUNDS.—A good method for ready disinfection of steel sounds is to immerse them in alcohol, and then after removal, to ignite the spirit that adheres. —*Med. Summary* in *Lancet Clinic.*

The *Brit. Med. Jour.* of August 28, the *Lancet* of August 21, and the *Med. Press and Circular* of September 15, were educational numbers and each a mine of information for the student or practitioner who wishes to know anything of medical education in Great Britain and her colonies.

Public Opinion is one of the publications that should be on every physicians reading table. *City and State*, a Philadelphia publication, devoted to good government and reform, says: "The parti-colored opinions usually found in its pages are not easily blended. It is needful to have these opinions, however, for thus alone can we know truly our land and time, the world and man, and how goes the battle of the hour—and every hour has its battle." You will receive sample copies, etc., by sending your address to *Public Opinion*, 13 Astor Place, New York, and mentioning the CORPUSCLE.

The *Midland Monthly*, Des Moines, Iowa, has announced special prizes to amateur writers of both prose and verse. The competition closes Jan. 1, 1898. The third part of Col. (Judge) John W. Emerson's "Grant's Life in the West," will begin with the January issue and run through a large portion of the year.

The *Overland Monthly*, San Francisco, for October, is unusually replete with good things. It contains, among other things, another paper on Alaska, and begins Major Ben C. Truman's series on "Pacific Coast Stage Drivers." A series of papers on the Asiatic Coast, by Mr. Rounsevelle Wildman, recently appointed Consul to Hong Kong, is announced for early issues.

"Rush is purely a western institution. In the catalogue one fails to find the name of a single man coming from east of the Alleghenies, yet every state and territory in the Union west of that line has representatives, while Canada and Mexico both furnish students. For a Chicagoan Rush is very old, dating back to 1842, so that she was quite an ancient institution when the great fire in 1871, the date to which all events of historical interest in Chicago are referred, destroyed her newly erected buildings. Since then it has kept full pace with the city in growth, so that now with some seven hundred students it has few peers as to size in the country. Its graduates are scattered throughout the prairies and mountains of the west, an army over five thousand strong, and as faithful to and proud of their alma mater as any graduate of Yale. The present graduating class numbers two hundred and seventy, yet of these forty only have their degrees from literary colleges, most of these being the State universities of the west. However, these proportions are much improved in the lower classes, especially since the curriculum has been changed to four years.

How thoroughly western Rush is, is shown by the fact there are but two other graduates of the large eastern universities in the college—E. D. Whiting, Yale '94 A., and two Harvard men. All the western men who go east for their literary education seem to remain there for their M.D.'s, yet it is doubtful if a college graduate living here in the west could do better than to study medicine in his own country. The very rarity of the college graduate gives him the most exceptional advantages that he would not be likely to obtain in the East. There are many assistantships open to just such men, which while not interfering with their studies place the holder in a position to get the best of all that is going on about the college. For instance, Mr. Whiting has occupied, until recently elected first interne in the Presbyterian Hospital, the position of demonstrator of clinical microscopy; while the writer has acted as pathologist to the surgical clinic, as well as being assistant to the professor of morbid anatomy, Dr. Hektoen. Again I believe that Yale men are open to a particularly favorable reception. In the first place Yale has two representatives on the faculty—James Nevins Hyde, professor of dermatology; and Dr. Bevan, professor of anatomy. Also Mr. Whiting last year captured the Freer prize with thesis on malaria of such superior merit that he not only made a name for himself, but practically established a new standard for original student investigation in this institution, and placed Yale's reputation here at a very high point.

Of course everything here radiates more or less about our great surgeon, Nicholas Senn, whose clinics are not to be surpassed. Such is his reputation that most of the more difficult cases throughout the entire Northwest drift here, so often that his clincs, which begin at 2 P. M., are only closed after half-past six through want of light or endurance, while many cases are awaiting their turns outside. Only yesterday he operated in one clinic on fifteen cases, all of them major operations. This combined wlth his forceful teaching and impressive manner, makes the clinics of inestimable value. Rush has also added to her corps of instructors the celebrated pathologist, Edwin Klebs, who has recently come to the west from the Fatherland. Besides these two, Professors Hyde in dermatology, Lyman in medicine, and Haines in chemistry, are well known throughout the country, and with the younger and perhaps less widely known members make a faculty that can be excelled by but few of the eastern schools.

Another thing Rush possesses is abundance of clinical material. Some 20,000 patients are treated annually in the minor dispensary clinics, where the students are allowed to take part, and from these a great abundance of interesting or typical cases are furnished for the major clinics in the amphitheatre. The Presbyterian Hospital, with about five hundred beds, is directly connected to the college, so that patients can be brought into the amphitheatre for demonstration or operation. The Cook County Hospital is just across the street, and here clinics are held frequently on cases selected from its wealth of material, while in the necropsy theatre Professor Hektoen holds two autopsies weekly.

And, finally, after our college man has graduated, there is a great chance for an interneship in a good hospital. The Cook County hospital elects twelve internes by competitive examinations from graduates of all the Chicago schools, and since here the interne is more master of the situation than in any other hospital I know of, the places are contested for most fiercely. The Presbyterian Hospital elects eight men from Rush alone. The past year Rush secured six places in the County Hospital, and twenty-five interneships in other hospitals in the city, a record of which we are very proud.

So I believe that many of our Yale graduates who live in the west would be seizing a grand opportunity by studying here or in some other good western school. At least I do not regret staying here, even after reading my friend Evans' interesting letter from Johns Hopkins last month. It gives me great pleasure to be able to spread out the advantages and character of an institution that I suppose is little known in the East, and I am very grateful to the editors of the Journal for this opportunity."—H. Gideon Wells, Yale '95 S., in the *Yale Medical Jour*

PUBLISHER'S NOTES.

THE WASHBURN BOOK ABOUT MANDOLINS AND GUITARS.

Any one interested in the subject of mandolins and guitars can obtain a beautiful book about them free by writing to Lyon & Healy, Chicago. It contains portraits of over 100 leading artists, together with frank expressions of their opinion of the new 1897 model Washburn Instruments. Descriptions and prices of all grades of Washburns, from the cheapest ($15.00) are given, together with a succinct account of the points of excellence which every music lover should see that his mandolin or guitar possesses. Address, Dept. U, Lyon & Healy, 199 Wabash Avenue, Chicago.

A RELIABLE FOOD.

Messrs. John Carle & Sons, New York City.

Gentlemen:—I have received the "Nursing World Clinical Records" and samples of your Imperial Granum, although it was unnecessary to send the latter to acquaint me with its value, as we have a living example in our only son of the worth of Imperial Granum, and I have prescribed it continually for eleven years, and always with the very best results.

Yours very truly,————M. D.

Clinical records and samples of this celebrated food free, charges prepaid on application to John Carle & Sons, 153 Water Street, New York City.

M. Stephner, a favorite tailor of Rush men, is now located at 400 Ogden Avenue.

The Corpuscle.

Rush Medical College, Chicago, Ill.

Medical Department, Lake Forest University.

VOL. VII. DECEMBER, 1897. NO. 3.

CHRONIC SPINAL MUSCULAR ATROPHY VIEWED IN THE LIGHT OF THE MODERN CONCEPTION OF THE NEURON.

BY SANGER BROWN, M. D.

Professor of Medical Jurisprudence and Hygiene, Rush Medical College; Professor of Diseases of the Nervous System, Post-graduate Medical School of Chicago; Attending Physician (Diseases of the Nervous System), St. Elizabeth Hospital; Attending Physician (Diseases of the Nervous System), St. Luke's Hospital; Consulting Neurologist to Mary Thompson Hospital for Women and Children; Consulting Neurologist, Home for Destitute and Crippled Children; Member of the Neurological Society, London, England; Fellow of the New York Academy of Medicine; Fellow of the Chicago Academy of Medicine; Member of the American Medical Association; President of the Chicago Medico-Legal Society, etc., etc.

The conception of the neuron in the consideration of diseases of the nervous system may be regarded as a practical application to the art of medicine, of demonstrations made in the laboratory. Many of these demonstrations now rest upon so stable a basis that they may be accepted by the practitioner with safety, and, if rightly understood, are calculated to give him a much more clear and satisfactory solution of certain clinical problems that he could have gained before.

I will invite attention to chronic muscular atrophy of the spinal form viewed from the modern conception of the neuron. In this disease the motor neuron alone is concerned, and I may say that up to the present a greater number of definite and important facts have been developed in relation to this than in relation to the sensory neuron. Many elements in this conception are by no means new; it is essentially an assemblage and consolidation of ancient and modern fragments into a new structure. Let me enumerate some facts relative to the motor neuron which have to be kept in mind when the spinal form of chronic muscular atrophy is discussed.

Fig. 1 represents a motor neuron, a protoplasmic cell, consisting of a nucleated body and processes; the processes are of two kinds; (n), an axon, comparatively long, sending off branches at right angles, preserving about the same size throughout its course and finally breaking up into a fine terminal arborization, (not shown in the figure), and (dr) a dendron, comparatively short and branching like the limb of a tree. The function of the axon is to conduct nerve currents toward its termination. I shall not discuss the function of the dendron further than to say it has been supposed to conduct nerve currents toward the neuron body; the nucleus presides over the nutrition of the rest of the neuron and any part or parts separated from it soon perish.

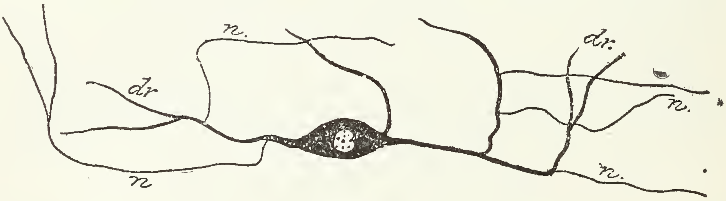

Fig. 1

In the human subject every voluntary muscle is assumed to bear relationship with two distinct groups of neurons; that is to say, first directly with the peripheral group, represented in Fig. 2 by 5, the body lying in the anterior horn, or its analogue, the motor nuclei in the medulla oblongata, and its axon coursing through the peripheral nerve trunks to terminate in the muscle; and second, indirectly with the central group, represented in Fig. 2 by 1, 2, 3, the body lying in the motor area of the cerebral cortex, and the axon coursing down through brain and cord to terminate in an arborization which forms a physiological connection with the corresponding peripheral neuron. The nucleus of the peripheral neuron, in addition to the function already attributed to it, presides over the nutrition of the muscle with which it is connected, and when this connection is interrupted the muscle perishes, wastes, atrophies. Normally, the central neuron exercises an inhibitory influence over the action of the peripheral neuron. *No central* *neuron ever communicates directly with an end organ or muscle.* Every voluntary motor impulse must traverse these two neurons central and peripheral in its passage from the cerebral

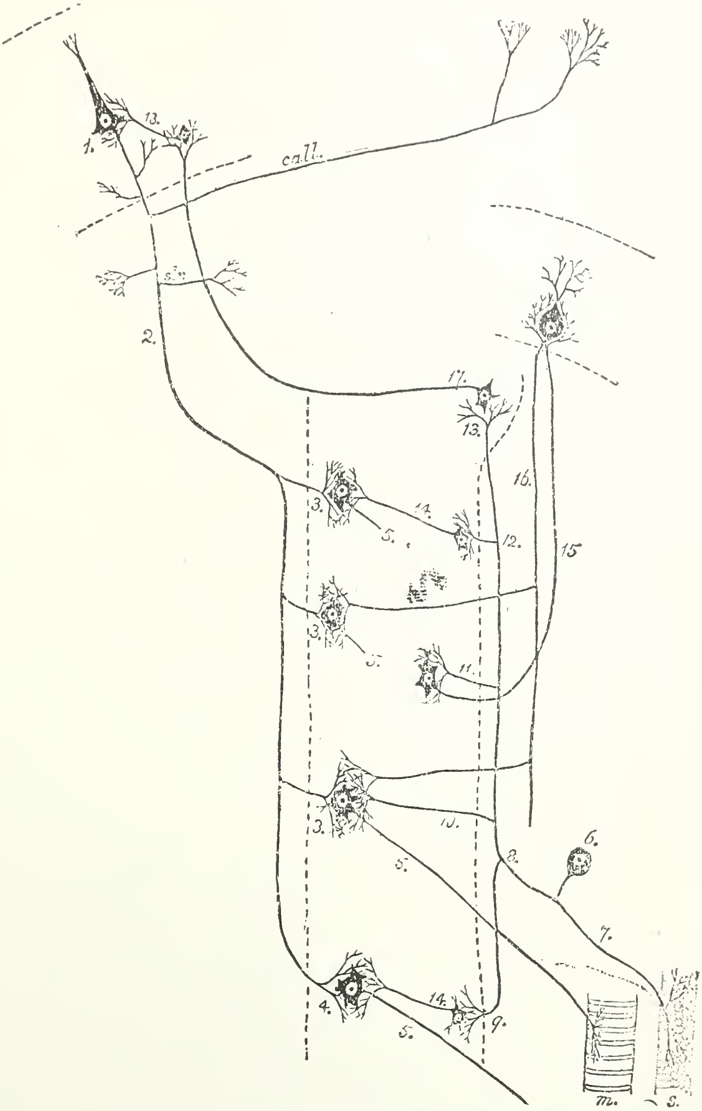

Fig. 2

cortex to a muscle. From these considerations it is evident that any interruption in this pathway from cerebral cortex to muscle must result in interference with volutary motion, produce paralysis in fact, but if the paralysis be due to a lesion of the peripheral neuron there will also be atrophy of the muscle with loss of reflexes—because the efferent arm of the reflex arc will be broken; while if the paralysis be due only to a lesion of the central neuron there will be no atrophy and the reflexes will be increased. These phenomena will not be affected according as this or that part of the axon or body of the neuron is affected. Hence, the impropriety of classifying certain diseases as belonging to the brain or cord, respectively, when the anatomical relations of these neurons are such that a classification of this kind may give no clew to the most important features of the disorder. It seems, indeed, that a classification referring the disease to this or that neuron would have much to recommend it.

Excepting that the disease is rare before the age of 25 and affects males more frequently than females, nothing of importance is known of the etiology of chronic muscular atrophy of the spinal form.

The disease has, as its anatomical basis, chronic degeneration of groups of peripheral neurons with consequent paralysis, atrophy, and abolition of reflex action in the corresponding muscles; the degenerative process appears never to attack the gray matter of the posterior horns or the posterior column; it commonly, however, involves to some extent the neighboring pyramidal tracts; thus with a classical lesion limited to the cervical enlargement, its favorite seat, there would be paralysis, atrophy, and loss of reflex in certain muscles of the upper extremity, due to degeneration of the bodies of the related peripheral neurons, while in the leg muscles there would be paralysis without atrophy and with increased reflexes, due to injury to the axons of the corresponding central neurons in their passage through the lesion, so to speak. Some authorities maintain that in those cases which come to autopsy there is almost invariably found to be degeneration of the central neurons corresponding with the peripheral, and that in some instances this can be traced to the cerebral cortex. The clinical evidence is opposed to this view, however, unless the degeneration of the central neuron were conceded to be contemporaneous with, or subsequent to, that of the peripheral neuron, for otherwise weakness, with increased reflexes, would precede wasting and atony, which is not the case.

In a minority of cases, slow wasting occurs while the muscular fibers remaining retain their tonicity to the last. In such cases section has revealed some intact neuron bodies in the anterior horns and others in various stages of degeneration, while many had entirely disappeared. Degenerated and healthy axons are found, side by side, in the pyramidal tracts above the lesion; by assuming that some of the peripheral neurons had, and that others had not healthy central neurons in relation with them the symptoms in this form of the disease can be understood. Only very rarely the sphincters are slightly involved; subjective sensory symptoms, without known anatomical basis, quite frequently precede the weakness and wasting by several weeks, but rarely last more than a few months after the latter has set in.

There is always normal response to all kinds of sensory stimulation. The cervical enlargement is the favorite seat of the lesion and the muscles composing the thenar eminence, the first to waste. There is usually an interval, varying from a few months to a few years, from the time of its appearance in the muscles of one side till it appears in the corresponding parts of the other side. After extensively destroying the neurons corresponding to one part, say the hands, it not infrequently appears in those at some distance. as the shoulder, or it may jump from the eye muscles to those of the hands. Degeneration reaction is only seen in rapidly advancing cases. So-called bulbar paralysis is another name for the same disease which begins with greater relative frequency in the motor neurons of the bulb after 45 years of age than before.

If the clinical data be regarded in the light of the pathology and the modern conception of the neuron, there can rarely be much difficulty in reaching a diagnosis. In syringomyelia some of the peripheral motor neurons slowly perish, producing paralysis and atrophy, but the same lesion that destroys the motor neurons invariably involves sensory neurons also and considerable areas of analgesia are therefore associated. In lead-palsy the symptoms are probably due usually to the action of the poison on the nucleus of the neurons which go to make up the median nerve. But both limbs are usually affected at the same time and almost equally; then, too, such symptoms as cachexia and colic tend to render the diagnosis clear. With the exception of some of the cranial nerves all the nerve trunks contain both motor and sensory elements, and both suffer when inflammation attacks the trunk (neuritis), so from this cause atrophic paralysis would be accompanied with sensory symptoms. But some cases of multiple neuritis seen late in the course of the disease, where a reliable history can not be obtained, present difficulties, for weakness and wasting of the extremities may be quite apparent while sensory disturbances have more or less completely disappeared. It may not be easy to arrive at a satisfactory conclusion as to the exact state of sensation in case of alcoholic neuritis of long standing on account of the mental obtuseness often present; and after all the residual atrophy, which is usually not complete, may be due to a permanent injury done to the nucleus of the neuron.

Idiopathic muscular atrophy almost invariably occurs in childhood, commences in the legs and runs a much slower course than the spinal form. If it begin with the hypertrophy of the parts afterward wasted, and if more than one case occur in the same family the nature of the disease is assured.

When the nucleus of the vagus is involved, and then only, is there immediate danger to life. If mastication and swallowing are not impaired too much, the health usually remains good, there is no pain, and life may last many years. After the disease has progressed several years, commonly rendering the upper limbs useless, there may be a partial, complete, temporary, or permanent remission.

The nitrate of strychnia given subcutaneously, daily, in doses of from one hundreth grain to one fortieth grain for six weeks, and then discontinued for a week, and so on, is the only remedy which so far has appeared to exert a favorable influence on the disease. The fact that strychnia has failed to be of benefit when given by the month, does not diminish the probability of its being successful when given hypodermically. Dr. Gowers states in the last edition of "Quain's Dictionary", that in seven almost consecutive cases in middle life the disease has been arrested within a month by this treatment, and in all but one the arrest was permanent. I have had some success with it, but have not had my cases long enough under observation to warrant me in making any very positive statements in relation to it.

The following cases illustrate some rather interesting variations in the onset and course of this disease.

Case 1.—Single gentlewoman of 26 years, correct habits, negative heredity, active and in excellent health, consulted me in September, 1896. Four months before she noticed weakness of the right thumb in buttoning clothing; it had steadily progressed until, when I saw her, there was marked atrophy of the thenar muscles and the interossei, with reaction degeneration in some of the flexors in the forearm. Knee-jerks were much increased, but no weakness of the legs complained of. Nitrate of strychnia, one thirtieth grain was given daily, subcutaneously. Six months from commencement, weakness and atrophy appeared in the left hand as it had done in right, notwithstanding medication. At this time there was marked weakness of the legs, greater in the right, with greatly increased knee-jerks and ankle-clonus; never any sensory disturbance. The family physician, who has not had an opportunity to make an examination of late, says that the upper extremities have been entirely useless for several months. In this case the disease ran a rather unusually rapid course, but began in the favorite parts.

Case 2.—A hard working and healthy Norwegian woman of good habits and the mother of several healthy children, noticed, at the age of 49, slight drooping of the left eyelid, which induced her to visit an ophthalmic clinic. The drooping progressed, with some variations, for several months, when it appeared in the right, and in about two years was so extreme in both eyes as to interfere very sensibly with vision; though otherwise this function was not impaired. A year later she, for the first time, began to notice weakness in the left hand, interfering with household duties. This slowly but steadily progressed for about six months when it made its appearance in the right hand. She never noticed any sensory spmptoms, but when I saw her, four years and six months after onset, she had suffered from dyspnea on slight exertion, for a few months. She had very little use of the hands, the muscles of which were very extensively atrophied; the supra and infraspinatus of both sides were likewise involved. Electrical response was greatly reduced to both currents, but there was no degeneration reaction. Action of the diaphragm was scarcely demonstrable. She was somewhat weak and awkward in the legs, the knee-jerks were increased and there was double ankle-clonus. Of course there were no tendon reflexes in the upper extremities.

Double ptosis was strongly marked and the eyeballs were quite immovable except from the action of the external recti. When it is remembered how far this nucleus is from the third and fourth it is not very difficult to understand how it might escape.

This case progressed very slowly. She came to the clinic about twice a month for a year or more, during which time I could perceive very little advancement in her disease; she had tonics and faradism; the latter she was sure was of benefit to her and she would not leave the clinic till she had had it. The treatment was only given as a concession to her feelings.

CASE 3.—A merchant aged 31 years, of correct habits and spare physique, had suffered for two years from dyspepsia, when, November 11th, 1896, he consulted a throat specialist for hoarseness which had been troubling him for several weeks; was inclined to strangle from swallowing liquids the "wrong way." The throat specialist discovered paralysis of the left vocal cord and referred the case to me. I could find no trace of the left sternoclidomastoid and parts of the platysma and trapezius were much atrophied. The lesion involved the neurons of the spinal accessory and the second and third cervical nerves of the left side. There was no disorder of the legs. A few months before the hoarseness set in he had noticed that the left arm was weak when he had occasion to reach shelves above his head. This patient lived at some distance from Chicago and I only saw him once. This case and the preceding, illustrate an unusual seat of commencement.

THE AMERICAN PEDIATRIC SOCIETY is making a collective investigation of infantile scurvy as occurring in North America, and earnestly requests the cooperation of physicians, through their sending of reports of cases, whether these have already been published or not. No case will be used in such a way as to interfere with its subsequent publication by the observer. Blanks containing questions to be filled out will be furnished on application to any one of the Committee. A final printed report of the investigation will be sent to those furnishing cases. J. P. Crozer Griffith, M. D., Chairman, 123 S. Eighteenth St., Phila.; William D. Booker, M. D., 853 Park Ave., Baltimore; Charles G. Jennings, M. D., 457 Jefferson Ave., Detroit; Augustus Caille, M. D., 753 Madison Ave., New York City; J. Lovett Morse, M. D., 317 Marlboro St., Boston, Committee.

LECTURES ON GENERAL PATHOLOGY.

BY PROF. KLEBS.

During Winter Season of 1897-1898.

CHAPTER I.

MALADY AND PATHOLOGICAL CONDITION.

1. Medical science is biology under abnormal conditions. It is built up by anatomical, clinical and experimental investigations.

2. Definition of malady. Disease is not a personal entity, as it is thought from an ontological standpoint; but there are some truths in these older opinions. Disease is imparted, ripens, flowers and is concluded by vanishing (crisis and lysis) as the plants blossom and bear fruits, ripening at a certain season of the year.

3. Cyclic and non-cyclic diseases; the first only in rapidly developing diseases, as some fevers, named before "essential fevers."

4. We know now that the cause of these fevers is an organic being; living bodies impart the disease.

5. We must see from these causes that malady is a struggle between two organisms. We name, therefore, the appearance of morbid symptoms, reaction; or, in case of failure, deficiency of reaction.

6. What is reaction? The summing up of all forces of the body to get free from its assailants.

7. If reaction is present, we call a morbid process an active one; if absent, a passive one.

8. Are now all active maladies subjected to this formula? Can we say that every malady will be infectious?

9. To answer this fundamental question we must revise the whole enormous number of diseases. Besides apparent infections, we see the toxic and traumatic processes. What is the character of these latter? The intoxications are present so long as the poison is acting in the body; we have acute and chronic intoxications, as by alcohol, CO, phosphorus, lead, etc.

Important subsequent effects of poisons: Destruction of cell, impairment of function, necrosis or degeneration.

10. All these very grave consequences have not the characteristics of true pathological processes. They are decidedly not of the progressive character of the true disease.

11. What is to explain this difference? In the true pathological process we have always the progressive character of the disease, depending exclusively upon the development and regeneration of the existing cause, the living micro-organism.

12. In intoxication we have only one active factor, the body; in the infectious diseases two, the body and the microbe.

13. The great majority of diseases and the most serious for mankind are the last. The first, intoxications, act only so long as a new importation of poison is present; the disease originated by that cannot be imparted to other individuals; whereas, in the infectious diseases, besides the danger for the individual, the spreading to others is a new and remarkable feature.

14. Traumatic affection (or mechanical destruction of parts of the body) has the same relation to disease as the intoxications. Every pure traumatic affection is healed now by the normal forces of the body, by regeneration of tissues or formation of scars. No surgeon would now name this process a disease. It can become a source of true disease if contamination succeeds.

15. We must therefore distinguish morbid conditions and morbid processes. The first is a state adapted for gaining disease.

16. Morbid conditions can be gained in very different ways: Congenital, or in consequence of lesions or of disease; predisposition, and the contrary indisposition of immunity.

17. The nature of disposition.

- A. Congenital weakness or defects;
  - *a.* Imparted by impregnation, or
  - *b.* Imparted in later embryonic life.

18. *a.* Defects imparted by impregnation.

Physiological development; female and male germ, nuclear substances of different origin combining and distributed by the karyokinetic process.

Pathological influencing of this process; fixation of eggs and shaking effect malformation.

High influence of regeneration in embryonic life; regeneration of the embryo after destruction of one of the primary vitelline spheres (Furchungskugeln). Roux.

19. Prevalence of female children born from elder primiparæ (two to one), contrary to the usual proportion.

Weakness of the male element; theory of Thury, proved experimentally in cattle, shows that the age of the eggs is in relation to the formation of the sex; prevalence of males in older eggs. Charles Vogt, the noted zoologist, expressed the opinion that the difference depended upon the greater thickness of the egg membrane.

20. The old idea of male and female egg, in elder times expressed, that the one comes from the right and the other from the left ovary, must be totally rejected; but there is decidedly a concurrence of the two substances, the male and female nuclein, in the formation of the sex.

21. In the same individual the properties of the father and mother can be distributed in a different way in the different organs. Oftentime the one side resembles more the father, the other the mother, different colors of iris, hermaphrotismus lateralis.

22. Hereditary processes promoted in embryonic development mostly by marriage of cognates (Znzucht).

Examples: Hemophilia, Daltonism, or color blindness and others.

23. In many of these cases of hereditary processes we can show an embryonic condition of some parts, principally of the blood vessels, parablastic and nervous aplasia.

24. These processes can be developed also in some parts only, so we know forms of congenital bleeding in some organs only (case of Senator, of congenital renal bleeding, healed by extirpation of the kidney), development of uterus masculinus and adenomyoma of the uterus (v. Recklinghausen), as partial hyperlastic developments of the other sexual ducts.

25. Atavistic influence on hereditary deficiencies.

They are very seldom found in man, relapses to former states of evolution. The suggestions of Chas. Vogt, that microcephaly is such an atavistic process is not acceptable, as this is only a mechanical influence, where development has been influenced by cramps of the uterus. In one case in which some of the children were microcephalic and others not, I learned from the mother that in every microcephalic case there had been in pregnancy heavy uterine cramps. Also, the forms of the head show not the same relations as in monkeys, shown by Christian Aeby.

Other forms of atavism, the tailed people or caudati, have in most cases not true tails, but only appendages of skin containing fatty tissue, as they are found very often in parts where the embryonic sutures are closed (neck, ear and coccygeal region).

26. Compression of embryo or mechanical impediment of development is the cause of the greatest number of defective formations. I have shown that these forms mostly arise in the commencement of development, in the time of formation of chorda dorsalis;as illustration, demonstrated a case of amyelia and anencephaly with dislocation of chorda dorsalis.

Also, defect formations are originated in later times of embryonic life, mostly aplastic, sometimes seemingly hyperplastic formations; case of fetal inclusion in abdominal cavity, in which compression of one hand shows the formation of more than ten fingers; in one leg, of two great toes.

27. By these observations it is shown that the embryonic body is disposed to deformities by mechanical influence in a much higher degree than the finally formed. All these deformities are transmittible by heredity, as show the Sedigiti (six fingered), a whole family in old Rome.

28. That also pathological states acquired in later age or extrauterine life, may be transmitted hereditarily is shown experimentally by Brown-Sequard, who found that guinea pigs, made epileptic by wounding the spinal marrow, gave birth to epileptic offsprings.

29. In the same category is put a great number of deformations of the body. Rudolph Virchow has shown that the Frisian people, a true German race, is platycephalic whereas the Skules of northern Germany are dolichocephalic.

Platycephaly and basal kyphosis are, as I have shown, a prominent feature in rickets. Probably this affection is also the cause of deformities in the Frisian race.

Another example gives the giantism and the dwarf-formation, normally found in the Patagonians (South America), and the Acca-Acca (Central Africa), forming race characteristics as well as found in sporadic cases, dependent in the first case from unknown but quite local influences and in the second by the cretinistic influence, established probably by certain organisms (Flagellatae) found in the water of certain mountain regions. How progressive agriculture destroys the local cretinistic influence was shown in the canton of Bern (Switzerland),

30. Heredity of insanity.

Farel (Zürich) asserts that four out of five of all cases of insanity are hereditary, and the influence of alcohol seems to be only a helping moment in hereditary insanity. We see that mostly the children become insane, who resemble the insane parent.

31. The heredity of tumors may complete the number of these affections. It can be shown that numbers of these depend more upon a deficiency of certain tissues or parts of the body than on specific irritation. Example: the development of manifold cartilaginous exostoses in a child under the influence of rheumatism (Virchow, tumors).

If some tumors, as carcinoma or sarcoma, should be found as infectious, certainly these infections will not have effect in sound, not hereditarily influenced bodies.

32. The influence of heredity in true infectious diseases is shown in the infection of tuberculosis, in which also the disposition more than the infection is transmitted from parents to children. Langerhans, in Madeira, showed that in 635 Europeans living there, 195 derived from tuberculous families, 480 from-non-tuberculous, the former showed under 75 deaths, 25 phthisical, 1:26; the other one 105 deaths showed only 5 tuberculous, 1:40.

33. Acute exanthematic processes are shown in the case of Kaltenbach, in which from two twins exposed in the same manner to scarlet infection, only one, resembling the father, became sick. The mother had had a grave scarlet 14 years before.

34. The highest proof for these hereditary influences in disease is the natural immunization of whole peoples against the great plagues, which history has demonstrated as being the true ground for the decrease and vanishing of these diseases once pervading the whole world, as syphilis, bubonic pest, cholera Asiatica.

RESUME IN THE FORM OF OUTLINES OF PROF. HEKTOEN'S LECTURES ON GENERAL PATHOLOGY, FOR THE GUIDANCE OF BEGINNERS.

I.

DISTURBANCES OF THE CIRCULATION.

Introduction: The function of the heart, the blood-vessels, hemodynamic pressure, regulating mechanism.

A. General Circulatory Disorders—

Causes:

In the Heart—Diseases of the endocardium, diseases of the myocardium, diseases of the pericardium.

In the Arteries—(arterio-sclerosis).

In the Lungs—(compression, obliteration of capillaries.)

In the Blood—Acute anemia, chronic anemia, anhydremia.

General Results:

Cardiac Insufficiency—Venous hyperemiacyanosis, edema, hypostasis, Fall of Pressure, Arterial anemia.

Compensatory Efforts—Hypertrophy of the heart.

What effect on the onward movement of the blood would narrowing of the mitral orifice produce?

B. Local Circulatory Disorders—

Physiological Variations in Local Blood Supply.

a. Path. Hyperemia—Arterial or Active—Chemicals (1.5% salt sol., alcohol, etc.); mechanical, thermal conditions; preceding or adjacent anemia. Paralysis of vasoconstrictors, e. g.; sympathetic in neck.

Venous or Passive—Extra or intra-venous; central or local; mechanical obstruction to return of blood.

Effects of Venous Obstruction—(a) Moderate (in veins with some collateral circul.): Transudation, Swelling, Cyanosis, Connective Tissue Growth, Degenerative Atrophy of Special Cells, Pigmentation.

(b) Absolute (in veins devoid of collateral circulation:).

Stasis, Infiltration with Blood Infarction, Death of tissue.

What would be immediate and remote effects of obstruction of the splenic, renal, femoral, or portal veins, or of the sinuses of the dura mater?

Observe the effects of tight compression of a finger with a rubber band.

b. Anemia (ischemia).

Causes:

Arterial Contraction (Stimulation of sympathetic).

External Compression (Bandage, tumor, scar).

Internal Narrowing or Occlusion (Thrombosis, embolism, endarteritis).

Results:

Immediate—Arrest of circ. in area of occluded vessel with paleness and coolness, succeeded by

More Remote—Development of collateral circulation or local death in case of "end arteries".

Collateral Circulation—The development of—Adaptive changes in collaterals.

Anemic Necrosis after Occlusion of end artery—Definition of End artery.

Enumeration—Spleen, kidneys, brain, retina, long bones, coronary, pulmonary, testicular branch of spermatic, superior mesenteric.

Anemic Infarct—Appearance of.

Hemorrhagic Infarct—Development of.

Softening in the Central Nervous System.

As seen in the Lung.

Examples of Serious Functional Disturbances—Brain, heart muscle, retina.

Fate of Necrotic Area (Infarct)—When bacteria are present. Absorption. Replacement with connective tissue. Calcification. Cyst formation.

c. Hemorrhage.

Definition.

Diapedesis—Experimental Study of, occurrence of—Infiltration into infarcts. Passive congestion and stasis. Intoxications. Infections. Nutritive Disorders.

Rhexis.

Traumatic.

Spontaneous—Increase of Pressure. Disease of vascular wall—primary, secondary.

The Hemorrhagic Diathesis:

Hereditary—Bleeder's disease.

Acquired—Infections. Intoxications. Chronic exhaustive diseases.

Causes—Changes of vessel walls. Abnormal State of Blood.

Neuropathic Hemorrhage—Vicarious menstruation. Hysteria. Coarse lesions of central nervous system.

Results—

The Immediately Dangerous—Fall of pressure from Amount of blood lost. Local effects—brain, pericardium.

Adaptive — Readjustment of vascular tonus. Increased absorption of fluids into blood. Increased coagulability of blood. Regeneration of blood corpuscles.

Local Changes—Removal and absorption. Changes in clot. Action of leucocytes—changes in lymph follicles. Connective tissue proliferation—encapsulation. Calification of detritus. Softening. Cyst formation.

Nomenclature—

Free Surfaces—Epistaxis. Hemoptysis. Hematamosis. Melena. Metrorrhagia. Hematuria. Hemopericardium. Hemothorax. Hemato-salpinx. Into Solid Tissues—Ecchymosis. Suggillation. Infarction. Hematoma.

d. Lymphorrhage—Lesions of Thoracic Duct; Chylous Ascites, Chylous Hydrothorax; Chyluria.

e. Edema.

Preliminary Remarks—Intercellular Spaces, Diffusion and Filtration of Fluid, Secretion by Endothelium? Possible Modes of Origin of Dropsy.

Nomenclature—Edema. Ascites. Hydrothorax. Hydropericardium. Hydrocephalus. Anasarca.

Genesis—

Obstruction to Lymphatics, thoracic duct.

Passive Congestion—Increased transud. of serum from pressure. Inc. permeability of wall. Loss of elasticity of tissue.

Angiopathic—Increased permeability. Stimulation of endothelium?—Toxemia, hydremia.

(Inflammatory. Neuropathic.)

Transudate—Alkaline, clear, yellowish, 1.006-1.012 in sp. gr. Albumin, .56-1.30 per cent. Desquamated cells. Abnormal subst. of blood.

Appearance of Dropsical Tissues—Swelling. Pitting. Weight. Moisture. Vacuolation of cells.

Directly Dangerous Consequences—Larynx (Edema glottidis). Lungs. Brain, etc.

f. Thrombosis.

Definition—Chemistry of Fibrin Formation.

Composition of Thrombi—Blood Plate Thrombi. White, Red and Mixed Thrombi.

Causes:

Stagnation of Bood—Local, general.

Roughening of Intima—Degeneration; inflammation; wounds.

Ferment Intoxication—Snake bites; large burns, experimental.

Where and When Oftenest—Systemic veins, recesses of heart, aneurisms, varices, wounds, degenerations, marasmus.

Consequences—

Parietal and Occluding Thrombi.

Collateral Circulation—Vein, artery.

Changes in Thrombus—Detachment as a whole. Substitution with connective tissue. Calcification. Softening—Bland, septic—Embolism.

Post-mortem or Agonal Changes in Blood—Movement after Death. Goose-fat Clots. Cruor Masses. Distinction between Thrombi and Clots.

g. Embolism.

Definition.

Origin and Nature of Emboli—1. Dead Tissue—Thrombic fragments—Fat, heart valves. Parenchyma Cells—Liver, placenta.

2. Living Cells—Carcinoma, sarcoma.

3. Animal and Vegetable Parasites.

4. Foreign Bodies, air.

Routes of Travel and Places of Lodgment.—

With Blood Current.

Large Emboli—Systemic veins and right heart: Lungs. Pulm. veins, left heart, aorta: Arteries. Portal Vein: Liver. (*Paradoxic* and retrograde embolism.)

Capillary Emboli—Liver, spleen, bone marrow.

Results—

Mechanical (Plugging of vessel)—Sudden Death (Fat embolism. Air embolism. Pulmonary artery. Coronary Arteries). Anemic Necrosis—End arteries. Collateral Circulation.

Specific—Infected Emboli, Parasitic Emboli, Tumor Cells—Metastasis and generalization.

The following is a list of the principal medical colleges arranged according to size and the number of their matriculates for year of '96–'97:

1. Medical Department, University of Pennsylvania, 926.
2. Bellevue Hospital Medical College (New York), 713.
3. Rush Medical College, 699.
4. College of Physicians & Surgeons (New York), 674.
5. Medical Department, Harvard University, 554.
6. Medical Department, University of Michigan, 474.
7. Jefferson Medical College (Philadelphia), 474.
8. John Hopkins Medical College (Baltimore), 123.

Of our near neighbors:

Chicago Medical College about 316.

College of Physicians & Surgeons, 308.

It is interesting to note that Rush stood among the first three. When the present senior class—which fills in the gap between the three and the four year courses—graduates and the college has four full sized classes, her number of matriculates will reach an even higher mark. Members are not especially advantageous from the student's point of view, yet they are very gratifying to all Rush men, as showing that others also appreciate the fine course Rush offers and are taking advantage of it.

PROF. COTTON'S PEDIATRIC CLINIC.

Reported by Dr. I. Lange, Chief Assistant.

CASE 1:—October 29. *Subacute bronchitis*: Student V. F. Marshall examined and reported the following case: Joseph D., 3 years old, suffers from severe coughing spells night and day; vomits; onset six weeks ago; had a cold, fever, followed by a soft, later hard cough and anorexia; presents now suffused and puffy eyes; had pain all over chest and in ears last night. The mother had five children, two living and three dead of pertussis, rachitis and summer complaint. Inspection shows swollen prolabia indicating acute rhinitis so prevalent in October and November. Respiration shows no embarrassment and we can exclude lobar pneumonia. The throat appears congested but not inflamed, a condition favorable for the cultivation of bacilli. It is evident that this boy has taken a little fresh cold by rapid reduction of temperature. This condition suggests, in the line of treatment, rubifacients, counterirritants, saving the stomach for nutriments, bewaring of expectorants that interfere with digestion, ipecac excepted, which stimulates gastric and intestinal secretion. If paroxysms should become severe antispasmodics, like bromoform, would be indicated.

CASE 2:—*Postdiphtheritic Paralysis.* L. H. Heddens reports the case of a boy, Clarence G., six years old, who had measles when 3 and one half years old and diphtheria two months ago. The mother has two other children that are well. During convalescence from the last attack of diphtheria, the food began to pass through his nose and his voice assumed a nasal tone. There are no other defects or abnormalities discoverable. This condition of postdiphtheritic paresis, is very common during convalesence between the third and fifth weeks, following mild cases as often as it does severe ones, attacking usually the soft palate. An examination of the soft palate shows that its movements are not as free as usual. The degree of paralysis varies from a mild paresis to a decided paralysis. the pharyngeal muscles and esophagus are at times involved so that deglutition is performed with difficulty, requiring feeding by catheter. The paresis also at times affects any or all voltary muscles so that the child cannot stand or sit up or even raise his head. There are cases on record where the paresis was discovered before the sore throat and such cases may be very puzzling, especially when there is no paralysis of the palate, but weakness of legs. The pathology is not fully clear; a peripheral neuritis seems the essential change. The indication for treatment consist of rest, change to the seaside and general tonics with the continuous current. The prognosis is favorable as a rule.

CASE 3:—John T., ten and one half years old, had lung fever, so-called, at six years of age, coughed six months after it. Two years ago he complained of soreness in chest for two months and received treatment at this institution. His mother had three other children and lost two, one dying of heart disease, the other of hydrocephalus. The boy's paternal grandfather died of apoplexy; maternal grandfather of cancer of stomach; paternal aunt had kidney trouble. For two weeks he has had a dry cough, worse at night, with occasional vomiting, pain in abdomen, loss of flesh, anorexia; his sleep is restless. His urine is thick and high colored, sp. gr. 1030, sediment negative. Hemoglobin 75 per cent. Inspection shows a flat chest, round shoulders, emaciated, sinking in of intercostal spaces, depressions of supra and infraclavicular spaces. Auscultation shows a normal though rapid heart with soft haemic murmurs in vessels of neck, moist rales in lower right posterior thoracic region with dullness on percussion of the same area at the base.

The facial expression shows no levity of boyhood; rotundity is lost; eyes sunken; malar eminences prominent; hair dry and husky; sclerotics too white; skin thin, belonging to sanguine temperament; mucous lining of palpebrae does not indicate large number of red blood-corpuscles; there is a little chain of enlarged glands at angle of jaws, also a little flush on each cheek; mouth full of teeth of pretty good shape; upper gums somewhat swollen with a red marginal line, indicating usually rapid tissue waste. He gets tired easily and has an irregular, rapid, nervous pulse, and tachycardia, and associated with anemia. Respiration is however not noticeably disturbed, thirty per minute with a temperature of 99.6 degrees.

Clinical investigation has confined itself of late to examination of secretions of affected areas and a finding of Koch's bacillus would prove this case to be tubercular, although it sabsence would not exclude the possibility of the latter diagnosis. Taking the points collectively as mentioned, the condition points to tubercular invasion. Our therapeutic aim must be in the direction of stimulating nutrition.

CASE 4:—Mary H., three years old, was brought here several days ago during a convulsion lasting fifteen minutes. She had measles one year ago, a cold two days before the convulsion, has sore throat now, usually sleeps well, eats and drinks most everything, tongue somewhat coated, prominent abdomen pointing to interference with nutrition in the past. There is a rather prominent sternum and pectoral region, not suggestive of rachitis, however. Owing to the poorly developed inhibitory nervous apparatus, the undeveloped state of the cortical centers during infancy, which exercise inhibitory influences, the pons, medulla, and cord, discharge their stored nervous force when stimulated. Under such stimulus the delicate ones and those who have inherited neurotic tendencies suffer, the commonest predisposing cause being rickets, the nervous system being badly nourished like the rest of the tissues in that disease. In the large majority of children who suffer from convulsion between the ages of six months and three years, signs of rickets are present. Anemia, exhaustion from any cause, as well as hereditary tendencies, predispose to convulsion during the entire period of childhood. The existing causes of convulsions are mostly reflex. Thus the presence of a hard lump of curd in the stomach or bowels instead of provoking vomiting or increased peristaltic action, as physiologically it should do, acts as a stimulus over a wide area and some distant nerve centers are thrown into activity. In making post-mortems on young children who have died in convulsions, it is no uncommon thing to find an overloaded stomach and indigestible food. Remember that a typical convulsion closely resembles an epileptic fit, but the stage of tonic spasm is usually shorter, while the clonic spasms are more prolonged and vigorous. The prognosis depends on the exciting causes and is usually uncertain, often grave.

The Corpuscle.

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Ruby Red and Black: Colors of Lake Forest University. Orange: Color of Rush Medical College.

THE EDITORIAL VACANCY.

There will soon be another vacancy on the Editorial Board, caused by the retirement of the senior member. All applicants for the position should hand in some specimen of their work, in the way of clinical report, original work, or communication, as soon as possible.

It should be understood that the position is open to any student who shows the ability and who will conscientiously do the necessary work. The Board, however, reserves the right to reject any and all material submitted. Every one has an equal chance, and the position, it may be stated, is not without some remuneration. It is hoped that a number will make application.

THE YELLOW FEVER.

Last month we published an article on "The Germ of Yellow Fever," which embodied the results from the latest investigations. This month we can chronicle the cessation of the yellow fever scourge that has existed for many weeks in the South, which only the frosts of the last few days could bring to an end. Rush men are especially interested in the yellow fever situation, for had the advice of the former Surgeon-General, Dr. John B. Hamilton, been heeded, the fever would not have reached our shores. Dr. Hamilton was for thirteen years

Surgeon General of the U. S. Marine Hospital Service and, during that time, the founder of the quarantine system.

Dr. C. P. Wilkinson, Resident Physican at the Mississippi Quarantine Station, recently wrote a letter to the New Orleans *Times-Democrat* on "How the Fever Got In." We quote the following therefrom:

"In 1887 the citizens of Biloxi and of other points on the Mississippi Sound urged upon their Congressmen the request that the Ship Island Quarantine Station should be removed to some other more remote locality. The reasons that this removal should be caused were patent to all, the principal one being the impossibility of preserving isolation of vessels in quarantine at that place. To one familiar with the Sound coast this argument was insuperable. The Mississippi Congressmen in their efforts to secure the passage of the act of Congress necessary were wisely and ably seconded by the then Surgeon-Gen- of the Marine Hospital Service, Dr. John B. Hamilton, who readily saw the necessity of such removal. Congress passed the act in 1888 Surgeon-General Hamilton appointed a commission to select a better site for the station. He appointed Surgeon W. H. Hutton, after whom the mechanics' detention camp at Avondale is now named. Assistant Surgeon H. R. Carter, now in New Orleans, both of the Marine Hospital Service; Capt. Parker, of the coast revenue cutter; and, to show his deference to the people and the interests of the vincity, invited the people of Biloxi to name the fourth, and the Louisiana Board of Health to name the fifth member of the commission. Dr. Maybin was named by Biloxi and I was named by our Board of Health. After careful examination of the various possible locations for a quarantine station the northern end of Chandeleur Islands was unanimously selected by this commission as being admirably adapted to the purpose. The location was accepted. A quarantine plant was there erected.

Ship Island Quarantine Station was abandoned, and the buildings, being considered infected, were burned. In 1893 a terrible storm swept across lower Louisiana and Mississippi. The Louisiana Quarantine Station, erected at about the same time as the Chandeleur Island station, because of superior construction, passed through the hurricane without loss of life and with little damage to property, and was at work disinfecting vessels the next day; whereas the Chandeleur Island station, because of inferior construction, for which the national government is responsible, was demolished, and the next day nurses, patients and stewards were floating about the Gulf of Mexico, drowned and killed in the wreck.

The following year the Marine Hospital Service moved the quarantine station back to Ship Island, in spite of the wishes and in defiance of the protests of the inhabitants of the Sound coast, and with amazing and fatal disregard of the elementary principle necessary for a properly located quarantine station, i. e., the possibility of isolation.

From Ship Island Quarantine Station has come this visitation of yellow fever."

A QUESTION OF CONDUCT.

The spirit of "rowdyism" which manifested itself so conspiciously in the late class of '97 seems to have been inherited by certain members of the present junior class, who not only are getting themselves disliked by the Faculty, but by their fellow students as well. When a student has reached his junior year in medicine, he should lay aside the pranks characteristic of his childhood and should think of things more seriously. We are all here, it is hoped, to learn, and it is very annoying to have among us some students who constantly persist in raising a disturbance. This is to be particularly noticed at the clinics where certain juniors are wont to disturb those who are anxious to know something of what is going on. These men should be given a compulsory vacation by the Faculty, or dealt with in some other strict measure.

The senior class, either from its small size, or because the members realize that other things are more important, is comparatively free from the infection which has so unmistakably spread among the "D. J's."

Chicago Pathological Society:—The annual address before the Chicago Pathological Society, will be delivered in Handel Hall, 40 Randolph street, on the evening of December 3rd, at 8 o'clock, by George M. Sternberg, M. D., Surgeon General of the U. S. Army. The topic will be "Yellow Fever; its Etiology and Pathology." You are cordially invited to attend. George H. Weaver, Secretary.

HEARD ABOUT COLLEGE.

Dr. Newton M. Otis, '91, is assisting Dr. Barnes of Fairbury, Ill. Friends report that he is having all the work he can attend to.

We have heard from Dr. W. A. Cook, '97, 211 Main Street, Charles City, Iowa. He reports that business is good. We must congratulate him on his recent election as coroner. The class of '97 is certainly making a great reputation for post-mortem examinations as Dr. Cook is the fifth or sixth man whose appointment to a coronership has already been reported to us.

Prof. Haines was confined to his house with a very severe cold during the first three weeks in November. Rush is very glad to have him back again and hopes that he will not do too much before full recovery.

Dr. Wescott has been to Minnesota upon a quail shooting expedition.

Prof. Senn took a short hunting trip the middle of the month.

Patronize the firms that patronize your college publication, the CORPUSCLE. You will know who are our friends and your friends if you will read our advertising columns. They contain advertisements of the best and most reliable firms only.

Hering, '99, can tell you anything you want to know if the C. M. and St. Paul is the road that takes you home for the holidays.

Dr. W. C. F. Witte, ex-interne Presbyterian Hospital, has located at 1820 N. Clark Street, and is clinical assistant to Dr. Etheridge, at the Chicago Polyclinic.

Dr. E. Bowe, '97, expects to leave St. Joseph's Hospital, Chicago. His interneship will be taken by Dr. F. F. Bowman, '97, who gives up his appointment in the Milwaukee Emergency Hospital for the St. Joseph appointment.

Drs. Harvey and Smith, internes in the Presbyterian Hospital, are now instructors to the the juniors in "Principles of Surgery."

Dr. H. J. Bruggie, '97, has returned to the city and enters on his duties as interne at the County Hospital, December 1.

Dr. John D. Freeman, '97, interne in the Presbyterian Hospital is back from a vacation; Dr. G. T. Ayres, '97, took his place. Dr. Ayres enters on his service as interne in the same hospital December 1, when Dr. Smith, the senior interne, retires.

A number of students, new and old, are given to wandering over to 304 Honore when they "have hours."

Dr. J. G. Cross of Rochester, Minn., a brother-in-law of Dr. Montgomery, has been visiting Dr. M. and getting familiar with the way we have at "Old Rush."

Dr. J. T. Jelks of Hot Springs, famous as a dermatologist, visited Rush recently and on an afternoon filled the lecture hour for Dr. Senn.

Charles Shulz is ready to quote student rates for the holidays to those who can use the Chicago and Alton.

What better for a Christmas present than one that comes all the year, one of the standard periodicals! The CORPUSCLE will save you money on any periodical published, in combination with the CORPUSCLE.

Austen says that "in tuberculosis of the spine the gibbons should be protected with a dough-nut."

McConnell has a new theory on the infection of cow's milk by the typhoid bacillus. He says that the cow's drink typhoid water and thus infect the milk.

Prof. Bridge will leave for his home in California about December 1. The Doctor is one of those rare men who can make an interesting case out of very poor material, and he will be greatly missed in the medical clinics. His examinations are of a kind that make one think, and that is what the medical student should be made to do.

Among the musical events of the winter which are attracting more than the usual attention, is the coming concert which will be held in the Auditorium the 17th of January for the benefit of the Presbyterian Hospital. While this is spoken of as one concert it really will be four concerts in one. The artists being Madam Nordica, Mons. Plancon, Mons. Ysaye, and the Thomas orchestra. With the exception of last winter the Presbyterian Hospital has for a number of years given these musical entertainments on a scale which surpasses anything of the kind in the concert line. The Melba concert two years ago was probably one of the largest audiences ever congregated in the Auditorium on a similar occasion. The house was not only entirely sold out, but there were from five to six hundred tickets sold for standing room. The coming concert this year promises to surpass that of two years ago. The boxes have been practically all sold, and many of the seats are already engaged. There are a number of dollar seats which are very desirable and if any of the students desire to procure any of these in advance, and we can hardly see how they can miss such an opportunity in hearing talent such as they will never hear on the same platform together again for this modest sum, they can secure the same by applying to Mr. Caffee.

Dr. Fisher, of Syria, visited Prof. Hamilton's clinic Nov. 27.

WHITE MICE WANTED:—Prof. Klebs is desirous of securing some white mice for use in his laboratory. Any one able to supply these little animals, is requested to communicate with the Doctor, 152 Walton Place, Chicago.

Have you ordered your magazines for the coming year? Send in your order through the CORPUSCLE. We can save you money. Ask for rates.

Stevenson:—"The college will be glad to frame the exchanges and place them in the Pathological Laboratory Library."

First Freshman to second Freshman:—"Have you bought one of those matriculated skeletons yet?"

Football enthusiasm is running high. Bode wants to know (Nov. 11) if Grasse is going to close up the college Saturday.

Prof. S:—Where can you see the tubercles in a general tuberculosis?

Mr. G:—Do you mean from a general standpoint Doctor?

Prof. S:—It makes no difference where your standpoint is if you can see them.

Students will note that W. T. Keener, 52 Randolph Street, referred to in our book reviews, is in no way connected with the W. T. Keener Co,, 96 Washington Street.

Some students are under the impression that the CORPUS-

CLE boxes are a part of Uncle Sam's efficient mail service. However, as all letters posted therein have been properly prepaid with stamps, we have gladly mailed them in the proper box on the corner and trust they reached their destination safely.

Last month a number of student subscribers to the CORPUSCLE changed their rooming place and neglected to advise us of their new address. In order that your CORPUSCLE reach you promptly do not fail to advise us of any change of address, so that we may be able to deliver the CORPUSCLE to you regularly.

Glen Sheldon, '99, passed the Illinois State Board examinations and is now entitled to practice in this State. This speaks well for Sheldon and is also a credit to Rush that a man can go just half way through the course and satisfy the examining board.

At a recent meeting of the class of '99, Franing was chosen president. Franing is now trying to get up enough spirit in the class to publish a "Pulse." There is no reason it should not be a success.

ATHLETICS.

THE FOOTBALL GAME WITH NORTHWESTERN UNIVERSITY.

There are two entirely separate stories of the game with Northwestern at Evanston, Saturday, November 6. The first is that of the opening half, when Rush tore up the Evanstonian line at will, blocked seven kicks, and kept the ball on the right side of the field, throughout, except for one short and serious instant. The second illustrated the effects of lack of condition, when in the closing half our winded men could not hold back the same line they had held so easily earlier in the game, and allowed two touch-downs to be made on long gains through the line. On the whole, the game was very satisfactory to the 250 enthusiastic Rush men who accompanied the team to Evanston. Without question Rush entirely outplayed the Northwestern team in the first half, and even in the second made many brilliant gains. The game was full of startling individual plays, in which practically the whole eleven took a hand. Robinson sent off some beautiful punts out of very narrow quarters, and Libby, Thompson and Bothne made many gains with little or no interference. Until exhausted, the line men had things their own way, and Northwestern knew better than to try either end. Lack of training and team work lost the game that brilliant individual work could not win.

Rush kicked off with sun and wind against them, and the ball was returned to the center. Rush carried the ball fifteen yards by short gains, and kicked to Evanston's twenty yard line. The kick was returned to the middle of the field, Bothne muffed the ball, and a Northwestern man carried it unmolested over the line. Goal was kicked. Score:—Northwestern, 6; Rush 0.

With this unfortunate "fluke" touch-down against them, our men braced up. Northwestern returned the kick-off to the fifty-yard line, and secured it on downs. Libby blocked an attempted punt, Cory getting the ball, but it was lost soon for offside play. Again the punt was blocked, Sheldon falling on the ball. By an exchange of kicks, and several short dashes through the line, the ball was carried to Northwestern's twenty yard line, where the latter secured it on downs. An exchange of kicks gave them the ball in the center of the field. Grasse blocked the next kick, Sheldon getting the ball. Then three more blocked kicks and a number of good gains by Thompson and Libby gave Rush the ball on Northwestern's fifteen-yard line. As time was nearly up Robinson tried for a goal from the field, but the kick was blocked, and the half ended with the ball at Northwestern's seven yard line.

On the second half Northwestern kicked off and secured ball on a fumble. One of their halves cleared himself from the line, but was downed by Robinson twelve yards from Rush's line. On the next down the ball was carried over, after but one minute of playing. No goal. Northwestern, 10; Rush, 0.

Rush secured the ball on Evanston's forty-yard line by blocking another punt, and Libby and Thompson carried it for the third time to the ten-yard line, where Northwestern held for three downs. They carried it nearly back to the center, when Perry broke through the Rush line, eluded Robinson, and secured the third touch-down. No goal. Northwestern, 14; Rush, 0.

Northwestern carried the ball back from the kick-off to the center of the field, when Perry tried to duplicate his previous touch-down, but this time Robinson downed him on the fifteen-yard line, where Rush secured the ball on downs. An exchange of kicks gave Rush the ball on Northwestern's forty-yard line. Bothne made two dashes for twenty yards, when the game was called with the ball in Rush's possession at Northwestern's twenty-yard line.

Alumni Department.

JAMES B. HERRICK, A. B., M. D., Editor.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to The CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Chicago.

Clem D. McCoy, '90, sends best wishes to the CORPUSCLE from Kenton, Ohio.

F. J. Mittan, '91, is enthusiastic. He says: "Long live 'Old Rush.'" He is nicely located at Colfax, Ill.

C. F. Ross, '81, is at Saunemin, Ill. He recalls his student days with pleasure and expresses the best of wishes for "Old Rush."

Married:—Dr. E. W. Zook, '95, to Miss Florence E. Edwards, Thursday, Sept 30, 1897. Dr. Zook is at Dunlap, Ill. The CORPUSCLE extends congratulations.

According to the *Union*, Salina, Kan., Dr. Shench, a graduate of Rush, has entered into partnership with Dr. Harvey of that city.

W. T. Peters, '94, writes from Burt, Iowa, "I am still happy and prosperous."

A. E. Smolt, '97, is serving as interne in a hospital at Stillwater, Minn.

W. C. Hontz, '88, is at Leonidas, Mich., and renews his expression of interest in the affairs of Rush by again subscribing for the CORPUSCLE.

Marcus Fessler, '96, is at St. Paul, Minn., and we learn that he is doing very well;

Dr. McNair, '95, is ill at his home in Batavia, Ill. He is attended by Dr. Nywald, '97, of Batavia, and by his brother O. H. McNair, '91, of Sugar Grove, Ill. We are pleased to state that at last accounts the Doctor was improving.

G. J. Schottler, '96, is at Dexter, Minn. This is a thriving village of about three hundred inhabitants with a good farming country around it. The Doctor writes, modestly, that he is enjoying a fair practice.

L. H. Hayman, '78, writes from Boscobel, Wis., trusting that the Alumni Association may be liberally supported by the graduates.

N. A. Drake, '68, is at Kansas City. He is not so far away, however, as to forget his Alma Mater. He says: "I hope I may be able to attend the next meeting."

L. Rothman, '87, is at Wittenberg, Wis.

A newspaper clipping has been handed us by our secretary telling how the coroner of some town left yesterday to spend a ten days vacation in West Virginia. "During his absence his assistant, Dr. William D. Vaughan, will be the acting coroner. Dr. Vaughan is a young man, a graduate of Rush College." The name of the paper from which the clipping is taken is unknown to us, likewise the name of the town or city in which Dr. Vaughan is located. But we all remember Dr. Vaughan well as the member of '97 who whistled himself into favor at the banquet last year. If he can practice as he can whistle he is a success.

J. B. Mason, '94, has the Alaska fever. The doctor promised, before leaving, to write us from the North. We shall look with interest for a letter from him.

That even the graduates are alive to the advantages of a students' medical library and would assist in any plan offering reasonable prospect of success, is shown by the following letter from Dr. John McLean. The numerous suggestions made from time to time are bound to crystallize ultimately, when a library such as Rush may be proud of will be accessible to the students. Perhaps the library of the department of pathology or the Adams Allen library in the Presbyterian Hospital may be the nucleus:

PULLMAN, ILL., Nov. 17, 1897.

Dear Doctor: What shall I say for the good of the Association?

Why not start a medical library, if the college will furnish a place and a man to care for the books. How? Let each member that feels able to do so, donate one work, (standard and up-to-date) on some branch of the science, each year, and as many books as he may have replaced with new books or new editions of the same works.

I can furnish a work on each branch from osteology to bacteriology that is standard, but a few years old.

My object in making the above suggestion is that many students are poor and unable to purchase books, but would be only too glad to avail themselves of the benefits of a good reference library were one placed at their convenience. What do you think of the project?

Very truly, JOHN McLEAN, M. D., '63.

CHICAGO, NOV. 13, 1897.

Dear Doctor: Herewith enclosed find check for annual dues to the Association for myself and John B. John left today with a party of twelve, sent out by the Northwest Mining Developing and Trading Co., for Alaska. They are going by way of Edmonton over the Canadian Pacific Ry., thence with dog-sleighs and ponies for several hundred miles to the east side of the mountains at the source of the Peel River, Alaska. John is to take care of the party in case he is needed and take up a claim also. He expects to be gone a year.

I write this short explanation of the trip as it may be an interesting news item to some of his friends. Yours very truly,

163 State Street, FRANK G. MASON, M. D.

One of the Editor's good friends, a graduate of another Chicago college, remarked one day that he always thought there was more *esprit de corps* in Rush than in any other college in the city. If one doubts the existence of loyalty and *esprit de corps* in Rush alumni let him read the following:

COAL CITY, ILL.

Dear Doctor: The CORPUSCLE is well worth the money as an up-to-date journal regardless of the college and alumni notes.

I hope every loyal son of "Old Rush" will come down with the dust and make the Association and the CORPUSCLE more prosperous than ever.

Yours sincerely, J. E. BROCK, M. D., '90.

So do we—Ed's.

LORDSBURG, N. M.

Dear Doctor: The CORPUSCLE is a very welcome visitor and stimulates one to better work.

I hope every year to be able to attend the Alumni Association meetings, but the financial stringency has been felt in this section. I am alone here, sixty miles from any brother physician. Hoping for the continued prosperity of the Association and the CORPUSCLE, I am,

M. M. CROCKER, '87.

NORFOLK, NEB.

Dear Doctor: It was impossible for me to attend commencement exercises, much as I would have enjoyed and profited by it. I hope I will be able to do so one or more times in the future. Enclosed find order for the CORPUSCLE for the coming year, as I wish to keep in touch with "Old Rush."

You had, as always, an excellent program and it is to be hoped many can attend.

Yours truly, W. H. H. HAGEY, '68.

NECEDAH, WIS.

Dear Doctor: Owing to severe indisposition I was disappointed in not being present at commencement exercises, but I am always very much pleased to hear good reports from "Old Rush," and I feel more deeply interested in both Faculty and college as years roll by. With kind wishes for the CORPUSCLE and a God bless "Old Rush," I am very sincerely,

F. ANTES CANFIELD, '72.

BARABOO, WIS., Nov. 14, 1897.

Dear Doctor: Yours of the 12th to hand. No alumnus feels more veneration for dear "Old Rush" than I do, and I am anxious that the Association live. Trusting that every alumnus may respond as cheerfully and that you may meet with the success that is your due, I am,

Yours in remembrance of the honored dead, viz., Profs. Allen, Gunn, Byford, Parks, Ross and Knox, not forgetting the old college clerk, Frank Gould. May "Old Rush" live on, and on and on.

A. O. F. SNYDER, M. D., '84.

WAUKESHA, WIS., Nov. 15, 1897.

Dear Doctor: Within please find $1.50 for CORPUSCLE and membership for the year. No one can grumble at the character and excellence of this journal, and out of respect and loyalty for "Old Rush" every graduate should take this excellent paper and always hold himself in readiness to cheer as a *Rushian* for the grand old school. I should have attended last commencement but for sickness in my family. Hoping prosperity will always go with you,

I am graciously, R. W. WIGGINTON, M. D., '68.

WATERFORD, WIS., Oct. 28, 1897.

Dear Doctor: I have received the October number of the CORPUSCLE and am glad to again hear from "Old Rush" and some of my classmates.

I am pleasantly located here, have a good practice and very good prospects for the future. I am always pleased to hear of the success and prosperity of our college and of its graduates.

Fraternally yours, CHARLES FLETT, M. D., '95.

COLUMBUS, O., 576 S. Third St., Oct. 22, 1897.

Dear Doctor: Replying to your request to become a member of the Alumni Association and receive the CORPUSCLE for one year I enclose herewith $1.50 for same.

I still have and always shall have the interests of "Old Rush" at heart.

Yours fraternally, M. T. DIXON, M. D., '87.

DEATH OF DR. COLLER.—Dr. Lyman T. Coller, one of the most prominent and well-known men in Sheboygan county, died Thursday morning at his home in the town of Hingham, of a chronic kidney trouble. * * * In 1863 he entered Lawrence University, pursuing a scientific course for three years. Subsequently, he came to Sheboygan county and studied medicine for a year with his uncle, Perry Coller, who was a physician of note. In October, 1867, he permanently located in Hingham, where he began practice. Feeling the need of further study in his chosen profession, he went to Chicago in the fall of 1878, andspent a year in the Chicago Medical College, after which he entered Rush Medical College for a post-graduate course, in the spring of 1882, graduating therefrom in the following February. Afterwards he took nine private courses of study, for all of which he holds certificates.—*Star*, Sheboygan, Wis., October 23.

DEATH OF DR. KING.—Dr. W. H. H. King, for years Surgeon-in Chief of the Passavant Memorial Hospital, Jacksonville, Ill., died November 15. The Doctor was graduated from Rush in the class of 1866.

DEATH OF DR. HOOD.—Dr. Michael Hood, a recent graduate of Rush Medical College at Chicago, died of tuberculosis at Fort Collins, September 24. Dr. Hood has been a resident of Fort Collins for nearly a year and had won for himself many friends in his new home.—*Colorado Medical Journal.*

DEATH OF DR. SMITH.—We are informed of the recent death, by shooting, of Dr. J. Smith, of Honolulu, S. I. The Doctor was called to the case of a young girl and made the diagnosis of leprosy, as a result of which the patient would have to leave home and live at the leper colony on one of the small islands. This so incensed the father that he called the Doctor to the house and deliberately shot him down. The girl's brother turned state's evidence. Dr. Smith was a graduate of the College of Physicians and Surgeons, New York City, but attended Rush about three years ago taking post-graduate work. He had always lived in Honolulu and had a large practice.

BOOK NOTICES.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAS. M. ANDERS, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals. Philadelphia, etc. Illustrated. Philadelphia: W. B. Saunders, 1897. Chicago agent: W. T. Keener, 52 Randolph street. Prices: cloth, $5.50 net; sheep or half morocco, $6.50 net.

This text book on general medicine has the great advantage of being the latest one published. The author has profited by the many preceding treatises, has retained their good points and has added much of worth from his own clinical experience. The arrangement differs in some respects from that of many other "Practices:" "Acute Articular Rheumatism," "Gonorreal Rheumatism" and "Lobar Pneumonia" have been placed among the acute infectious fevers; also the pathology of each disease is placed immediately after the definition. The subjects taken up are those of all text-books on medicine.

Systematic arrangement characterizes the entire book. Under each of the general divisions of a disease, etiology, symptoms, diagnosis and treatment, the various subheads have, where possible, either been numbered or stand in italics at the head of separate paragraphs, so as to catch the reader's eye and impress the main points upon his memory.

The author has recognized the student's weak points and has aimed to make those parts particularly strong, viz., diagnosis, differential diagnosis, and treatment.

The diagnosis he aids by placing, at the beginning of the diseases of the main system, a preliminary consideration of the general methods in each, such as the physical examination of the stomach and intestines, the clinical tests for the gastric acids, ferments, tests for the stomach's propulsive and absorptive powers, the macroscopical, microscopical and chemical examination of the faeces, etc. Scattered through the text-book are the special laboratory aids in diagnosis, as Johnson's modification of Widal's typhoid serum reaction, uranalysis and the bacteriological examination where possible; also a few points upon laryngoscopy, etc. The book abounds in these practical aids.

The differential diagnosis contains many diseases and their differing points, the list of such diseases being quite full. Where difficult and important, Dr. Anders has tabulated the differences; fifty-six of these tables are present, the majority of them original.

The treatment is up-to-date and more extended than usual in one volume "Practices." The arrangement here, too, is admirably suited for clear understanding and for rapid review, as the important indications for treatment are placed at the heads of separate paragraphs. Prophylaxis, hygiene and dietetics receive much attention. The parts on hydrotherapy, under typhoid, is very complete, and the latest results and methods in the serum therapy of diptheria are reported. Many new formulæ, tried and found of value by the author, are introduced.

The diseases of the nervous system have not been considered quite as fully as the remaining sections in the book, but it is mainly by the contrast that they suffer, as they contain all that is essential.

The illustrations are numerous and well executed; a few are superfluous, but the majority depict points of value. Among the many are: Colored charts, containing each step in the life history of the three types of malaria organisms; skiagraphs showing the bone changes in rickets and arthritis deformans; diagrams of topographical anatomy, including brain and cord; also temperature (T. R. P.) and blood charts, etc.

The book is large, 1287 pages, compact, and each page contains about one-seventh more reading matter than most octavos. The index is unusually full and well arranged. Print, binding and illustrations are all of high order.

Reviewers everywhere have received Dr. Anders' work favorably. The *Medical Record* says of it: "On the whole, the book may be cordially recommended to students and practitioners and it certainly is, of one volume works, the most complete exposition of modern pathology." We can thoroughly recommend "Ander's Practice of Medicine" to our readers as a terse, practical and complete one volume treatise of the extensive subject of general medicine.

ABOUT CHILDREN. Six Lectures given to the Nurses in the Training School of the Cleveland General Hospital in February, 1896. By SAMUEL W. KELLEY, M. D., Professor of Diseases of Children in the Cleveland College of Physicians and Surgeons (Med. Dept. Ohio Wesleyan Univ.); Pediatrist to the Cleveland General Hospital; Consulting Physician to the Cleveland City Hospital; President, 1896 and 1897, Ohio State Pediatric Society; Editor *Cleveland Medical Gazette*. 180 pages. Price, in buckram, postpaid, $1.25 net. Cleveland: The Medical Gazette Publishing Co., 1897.

Lectures I and II, after lightly reviewing the literature on the subject, deal in a general way with the main points of interest in the anatomy and physiology of the baby and of its gradual development.

Lecture III describes the various pathological conditions, such as deformity, diseases, accidents and injuries.

Lecture IV discusses symptoms and their interpretations. Dr. Kelley brings out many of the possible aids that the child's color and position, the character of its cry and the lines of its face, may lend to the diagnosis—valuable points in those little beings who cannot describe their own sensations.

Lecture V considers the nursing and general management of sick children. Under this head the author devotes much attention to diphtheria and membranous croup, explaining the general therapeutic measures valuable in these and the other common diseases of childhood. Medical treatment, proper, is not taken up.

Lecture VI explains artificial feeding and gives several good tables on the quantity and intervals of feeding; also one on modified cow's milk. The lecture closes with hints upon the tact necessary to successfully manage children—a very essential factor.

An appendix contains several good recipes for simple, palatable article of food.

The lectures are written in a conversational and charmingly simple manner. While necessarily superficial even in the branches it has taken up, the treatment brings out points of greatest interest to students of children and their diseases. The arrangement of subjects under individual headings prevents any repetition, while reference to the detailed index will at once find every statement bearing upon a given subject. It is a book well worth the attention of student and physician.

PATHOLOGICAL TECHNIQUE. A Practical Manual for the Pathological Laboratory. By **Frank Burr Mallory**, A. M., M. D., Assistant Professor of Pathology, Harvard University Medical School; Assistant Pathologist to Boston City Hospital; Pathologist to the Childrens' Hospital and to Carney Hospital; and **James Homer Wright**, A. M., M. D., Director of the Laboratory of the Massachusetts General Hospital; Instructor in Pathology, Harvard University Medical School; 105 illustrations. Philadelphia: W. B. Saunders 1897. W. T. Keener, 52 Randolph St., Chicago, Agt. Price, $2.50 net

The object of this book is to give the technique of a carefully conducted post-mortem examination and of the further identification of the gross findings by a thorough bacteriological and histological examination. To this end the subject matter is divided into three main parts.

Part I considers "Post-mortem Examinations;" the instruments necessary; the external and internal examination of the body and the best methods of incising and removing the various organs.

Part II, on "Bacterlological Examinations," includes the best modes of obtaining micro organisms from the autopsy or clinic, and the methods of their complete identification, such as growths on culture, staining, staining for flagellum, hanging drops, inoculation experiments, etc., with their technique. Each pathogenic micro-organism, with its morphology, is thus given. The apparatus used in a bacteriologic laboratory, the stains and culture-media with their preparation are described.

Part III treats of "Histological Methods." It gives the different processes by which tissues may be preserved, hardened, sectioned, classified, stained and mounted. It includes the staining and examination of bacteria in tissues of animal parasites and also the stains necessary to bring out other than the ordinary nuclear contrast for the parts of the nervous system and for special pathological conditions and products.

To this is added the consideration of the examination of the blood for hemoglobin and the number and kinds of its corpuscular elements—also the examination of products most commonly sent in from clinics.

This synopsis of its contents is necessarily superficial, but we can say with sincerity that the apparatus and technique is fully described and made clear by numerous illustrations, and that in every case all the very latest and best methods are given, as the authors have consulted the best American and

German authorities. Bacteriology and pathological histology are constantly growing closer to the study of general medicine as is shown by the increasing space now devoted to them in each new "Practice of Medicine." For this reason all students should become more familiar with them and their technique. This book was recommended by Professor Hektoen in his opening lecture to the junior and senior classes, and is one which will prove valuable to all students and invaluable to those working with a microtome or microscope. We can sincerely add our own recommendation of this clear-cut, concise and thoroughly up-to-date exposition of "Pathological Technique."

MEDICAL EDUCATION AND REGISTRATION—UNITED STATES AND CANADA. By WILLIAM T. SLAYTON, M. D., Fellow of the Massachusetts Medical Society; Member Legislative Committee Vermont State Medical Society; Member of the American Medical Association, etc. Hyde Park, Vt.: 1897. Published annually. Price, 75c.

A small volume containing vital statistics of medicine and medical colleges.

Part I contains requirements for license to practice medicine in the various states; also the population of each state in the last three decades; the proportion of physicians to the population and the number of medical schools in each.

Parts II and III give full statistics of the medical schools of the United States; the requirements for admission to each; their course and clinical advantages, fees, number of matriculants and graduates for the session of 1896-'97, etc.

Part IV applies the above statistics to Canada.

The book is neatly and systematically arranged and is a handy reference book. It contains all the information necessary to compare medical schools or chances for an opening—also to know how to prepare for the requirements of medical college or State boards. It has the advantage of being bulky, of not containing too much and of being cheap. Graduating students with future locations still unsettled, will find it of value, while the comparative statistics will interest medical students in general. In its line it certainly is *multum in parvo.*

WITH OUR EXCHANGES.

The *Living Age*, Boston, for 1898 promises to be a greater literary repository than ever, and richly filled with the most readable articles in the European journals. Issued every week, it keeps pace with the world's movements and exhibits the living, restless spirit of the age, as developed in its literature, science, commerce, politics etc. Not only are the ablest British articles reproduced but translations from the German, French Spanish, Italian etc., are given space, with monthly readings from American magazines and the new books. Besides the matter of a more solid nature its readers receive a fair supply of the best fiction of the day. "With All Her Heart," a translation from the French of M. Rene Bagin, began in November. Its recent publication in the *Revux Des Deux Mondes* aroused great interest both in England and France. *Les Anneles Litteraires et Politiques* describes it as an sport making story, "and the *London Athenaeum* as a work of fine and searching analysis, full of charm and redolent of a perfume which is exquisite and possesses no disquieting elements."

The volume begins with January 1, and new subscribers may receive the previous installments of "With All Her Heart."

The *Illinois Northern Hospital Bulletin*, Vol. No. 1, October, has been received. The *Bulletin* is to be published monthly and on the recommendation of the Superintendent was established for the amusement of the patients generally and to afford pleasant occupation, from time to time to patients who are printers. "The Illinois Northern Hospital for the Insane," is located at Elgin and this move is only one of many that have been made by the Superintendent, Dr. John B. Hamilton, in the interest of the patients.

The illustrations in the *Overland Monthly* tend to make one await with interest each new issue. The last number is no exception, the *Overland* is characteristic for its timely articles that bring one in touch with that distant but no less charming Pacific Coast.

The *Wesleyan Magazine* says:—"The pages of *Public Opinion* each week give a carefully selected resume of activity along different lines both at home and abroad. One noticable feature is the condensation of the most important articles from the best periodicals, so that the reader gets, within brief compass, the best thought of the day. 'Solidity' well expresses the character of the articles. Devoid of every tendency to attract attention by mere display and sensational captions, it appeals to busy thinkers, who will find it a most satisfactory reflection of the upper strata of public opinion."

You can get samble copies by addressing the publishers, 13 Astor Place, New York City, and mentioning the CORPUSCLE.

The November *Outing* is, as usual, excellent. Among the many good things we noticed; "Round the Summer Horse Shows," by A. H. Godfrey; Turkey Hunting on the Wekiva, Florida," by Leon L. Canora; "Yachting on Northwestern Lakes", by Capt. Walter S. Milner; "Football of 87-A Forecast of the Season", by Walter Camp; "Lawn Tennis Honors of the Season", J. P. Paret. "The Monthly Review of Amateur Sports and Pastimes," is replete with current data.

The *Midland Monthly* for November contains: "Homes of Lady Henry Somerset", "A New Route to Alaska's Eldorado", "Sketches of Egyptian Life", "William M Evarts;" "The Nude In Art", "The Eregarious Animal, Man", and a number of charming stories. The issue is replet with illustrations which add to the otherwise valuable articles.

The *British Medical Journal* for October 30, contains "A Case of Osteo Malachia", by Prof. Henry M. Lyman.

The American Journal of the Medical Sciences, for November, contains an article by Prof. L, Hektoen, entitled "Segmentation and Fragmentation of the Myocardium."

The last number of the *Journal of Experimental Medicine*, contained an article entitled "Focal or Insular Necrosis Produced by the Bacillus of Tuberculosis," by Prof. E. R. Le Count.

The *Sanitarian* for November contains: "Preventive Medicine in the City of New York," Herman M. Biggs; "Diphtheria and Unsanitary Conditions;" "Utility of Quarantines as now Conducted in Canada;" "The Quarantine System of the U. S.;" "The Relation of Federal to State Quarantine," with many valuable excerpts and, in the "Editor's Table," much concerning the yellow fever and other public health matters.

Dr. E. Fletcher Ingals recently addressed the Am. Clinatological Ass'n., as President, on the subject of the "Treatment of Pulmonary Tuberculosis" (*Jour. Am. Med. Ass'n.*, May 15, 1897, p. 913). He believes that, apart from tonic and nutritive agents, antiseptics are the only medicines that are of any use, but they must be used freely, "so that the system be as nearly saturated with them as possible." Oil of cloves as recommended by Fütterer (*N. Y. Med. Rec.*, Feb. 22, 1896), is his favorite remedy, and is given at first in doses of 5 minims, in capsule, three to five times daily, each dose being followed by a glass of milk. Every day the dose is increased by a drop, until a dose of 25 or 30 drops is given each time. He has also used iodine after Shurly's method with apparent benefit. This method consists in the subcutaneous injection of solution of iodine in doses of 7 to 15 minims every two or three days.—*Practitioner*, October, 1897.

PUBLISHER'S NOTES.

Valuable Remedies:—Tablets of "antikamnia and codeine," each containing $4\frac{3}{4}$ grains of antikamnia and $\frac{1}{4}$ grain sulphate codeine, are sedative to the respiratory centers in both acute and chronic disorders of the lungs. Cough is promptly relieved. In the treatment of LaGrippe and its sequelae, its value is highly esteemed. In diseases of the respiratory organs, pain and cough are the symptoms which especially call for something to relieve; this combination does this, and in addition controls the violent movements accompanying the cough. Place one tablet in the mouth, allowing it to dissolve slowly, swallowing the saliva. In the grinding pains which precede and follow labor; in the uterine contractions which often lead to abortion; as well as in the nocturnal pains of syphilis, they are most satisfactory. In the various neuralgias, and in all neuroses due to irregularities of menstruation, the relief is not merely temproary and palliative, but in very many cases curative. In these last conditions, always instruct that tablets be crushed before taking.

The *Hypnotic Magazine* will prove a valuable addition to every physician's library table. See their advertisement in another column.

The publisher recently received a very convenient pocket case, the courtesy of the Antikamnia Chemical Company, St. Louis.

A Vital Question:—In a recent exhaustive article on the alarming question of food adulteration, *The Medical Progress* says: "If food that should be pure, especially when it is required for the sick, if thus adulterated, how are we to expect the recovery of our patients? The best way out of the dilemma is for the physician to insist that his patients shall have only such products as are prescribed and recommended by him! There is one article of diet that can be relied on whenever a nutriment is needed for the invalid, and it is the Imperial Granum Food, a wheat preparation of absolute purity, that is espcially beneficial in all gastric and enteric troubles.

The Corpuscle.

Rush Medical College, Chicago, Ill.

Medical Department, Lake Forest University.

Vol. VII. JANUARY, 1897. No. 4.

A SERIES OF LECTURES ON DENTAL PATHOLOGY.

Delivered to the Students of Rush Medical College by Prof. Truman W. Brophy—Given in the Regular Winter Course of '97 and '98.

The order and eruption of teeth has always been a matter of interest to medical men, for the reason that, at that period of life, the physical condition of the child seems to require more attention than later. It is a time when it is indeed a critical period in the life of nearly every child.

The question comes, why is it that at the time of the eruption of teeth the child is so subject to sickness. You may ask me, "Is not the eruption of the teeth purely a physiological process?" Yes, the eruption of the teeth should be a physiological process, it is so intended by nature; but some way at that period the child is more prone to sickness, more prone to diseases of the alimentary canal, more prone to fevers than at any other time. Judicious management of the teeth at this time, of the associated parts, of the gums and mouth, may do a great deal toward preventing ingress of disease.

In the first place, it becomes necessary for the physician to know the time when the teeth should erupt; and, having this well fixed in mind, if he finds an excessive flow of saliva, if he finds a swelling in the mucous membrane he should pursue a course that would relieve this trouble. Is this trouble caused by pressure upon the mucous membrane? No, not this alone. It is the pressure of the increase backward; for the increasing tooth not infrequently presses backward even more than it does upward, and pressing backward its end often comes in contact with the nerve which lies in the inferior dental canal, and thus excites the disturbance, in other words, the end of the root of the tooth, when the gum is especially resistant and will not yield to the upward pressure, comes in contact with the nerve and excites the disturbance. I do not believe, nor do I think any one who has given the subject careful thought would say, that the pressure upon the mucous membrane would excite such disturbances and excite them so frequently. It is the pressure the other way, upon the nerves that supply the teeth with their branches. If you take a skull, you will find that there is scarcely anything between the ends of the roots and the track of the inferior dental nerve. If you take a skull which shows the teeth in the process of eruption, you will see how all these teeth are situated. There is a great broad track or groove, along the jaw where the teeth lie, and when from any cause the teeth and the substance above do not yield to the growth of the teeth upward, an irritation is excited. It is the general impression that this irritation is due to the pressure upon the mucous membrane, but it is due to the pressure upon the nerve itself.

Now, what is the rational course to pursue in a case of dental irritation? Remove the pressure as far as possible by the division of the gums, and dividing them deeply. Two objects are accomplished by this free incision. The first one is the removal of the congested blood and the next is the taking of the pressure off the tooth below, and the tooth will move forward. You may see that as soon as an incision is made over the tooth, there will be a lifting up of the tooth, and sometimes the tooth will seem to grow, almost pop through the incision.

This is the explanation of the irritation which comes from the eruption of the temporary teeth. Speaking of lancing the gums in such cases, I can imagine some of you saying: "We presume that the teeth may not come sometimes; it is possible that the gum tissue will re-unite and form a cicatrix, and then what?" It is a theory that has been held a great many years, that a cicatrix will be exceedingly tenacious and will not admit of the passage of the teeth through it as readily as through the normal tissue. It is now a well-known fact that the cicatrix will yield far more readily than normal tissue. I have heard good old doctors say that if you lance the gums once, and the teeth should not erupt before the wound healed, a scar will form and you will have to lance them again. There is no harm in that if your lance is clean and free from septic material. It is a source of relief to the child to have this tension taken off as much as it would be to have an abscess lanced.

The following table shows the different ages at which the teeth erupt.

DECIDUOUS TEETH.

Central incisors	5 to 8 months
Lateral incisors	7 to 10 months
Canines	12 to 16 months
First molar	14 to 20 months
Second molar	20 to 36 months

PERMANENT TEETH.

First molars and Central inferior incisors	5 to 7 years
Central superior incisors	6 to 8 years
Lateral incisors	7 to 9 years
Anterior bicuspids	8 to 11 years
Canines	9 to 12 years
Posterior bicuspids	10 to 12 years

Second molars	12 to 14 years
Wisdom teeth	17 to 25 years

There is quite a good deal of latitude given in this table, and it is right it should be so, for sometimes the teeth of a child do not erupt until the twelfth or fourteenth month, but as a rule you will find them as stated in the table.

The first thing to be considered in operating to relieve this trouble, is the most favorable position in which to place the patient. To lance the gums the most desirable position would be to place the child upon the mother's or nurse's knee, take a position either in front or behind the child, preferably in front, and have the lancet well guarded—wrapped with some bandage material—so as to have the point only exposed. This little precaution may save you considerable embarrassment at times, for a jerk of the child's head might cause a bothersome wound of the mouth. Hold the head under the left arm, place the fingers in the mouth, use the lance with the free right hand, thus having the patient under absolute control. It is not necessary to give an anesthetic. The anatomical structure of the teeth indicates the line of incision; e. g., for an incisor tooth you would make an incision deeply along the line cut upon until you felt the tooth with the knife. In making an incision for a bicuspid tooth you would make an incision in the shape of a T; carry the incision across the same way you would for an incisor, and then across the palatal surface make another incision, and the tooth makes its appearance without any further resistance. With a molar you would make a crucial incision.

By making this incision the tooth is allowed to escape from the gums without any great amount of resistance.

As to the eruption of the permanent set, I will say that they have the order as given in the table above. It is hardly necessary for me to go over it fully. The process of the eruption of the permanent set is not generally attended with systemic disturbances, as is the case with the temporary set. Still, we sometimes have cases of disturbance, more local than otherwise, and sometimes general systemic disturbance. This is perhaps the case more often with the third molar. That comes in in a crowded position, where the maxillary bone is not large, and where the teeth are quite large. as when the teeth resemble the teeth of one parent and the maxillary bones are like those of the other parent; e. g., one parent may have large, heavy teeth and maxillary bones, while the other may have a small, delicate set of teeth and maxillary bones. The teeth of the child may be like those of the former, the maxillary bones the latter, and thus cause disturbances in the eruption of the permanent teeth. These disturbances lead to the most pronounced disturbances we have; and in such cases the judicious removal of the teeth seems to be the best way in which to end the difficulty.

There is one matter that ought to be distinctly borne in mind, that in the temporary set there are twenty teeth, and thirty-two, sixteen in each jaw, when the full complement of teeth is present. Now at the sixth year fo age, posterior to the deciduous teeth, come the first permanent molars. They come in the same manner as the deciduous set, and in consequence of that, many parents make the mistake in presuming that they are not permanent. They tend to decay early and the patient will apply to some dentist or physician for relief; and unless the dentist or physician understands the condition he will do as requested by the patient and extract the tooth. The loss of the first molar is the most serious one that can be sustained, as they are the most important for the mastication of food, being set in the strongest part of the jaw. The upper molars stand just opposite the malar process, and the bone is more dense at this point, and better adapted for the purpose of grinding than the other parts. Their loss then, is the most serious so far as the grinding of food is concerned. These come in at about the 15th year of age, and it must not be forgotten that they are intended to remain, and that they need the attention necessary to keep them in a good state of preservation.

With reference to the diseases affecting the deciduous teeth: They are generally regular in positions; they are prone to disease the same as the permanent, and, decaying, they should be treated the same as the permanent ones.

A number of years ago an eminent French dentist pepared a table showing the relative frequency of dental caries, and in his experiments he found the first permanent molar of the lower set more frequently carious than that of any other. The question as to what the real cause of dental caries is, has been discovered within the last few years. What is the cause of this enormous destruction of tooth substance? Few people escape from the ravages of dental caries. The manner of the advance of dental caries is always from without inward. It begins on the enamel, or in that part where gum tissue has been turned back from the tooth, or it may begin in the dentine. It finds its way into the sulci, pits, into the little places in the tooth that have not been well formed by nature. It begins on the sides where teeth are in close proximity and hence not well cleaned. It begins in the buccal surface where little pits are present. Rarely indeed do we find it beginning on the lingual side of the molar teeth. Now the enamel of the teeth is formed in such a way that little folds coming down, often little fissures are made in it. These become most excellent receptacles for material, especially the starchy foods, and then what occurs? Now, if we take starch and add to it the saliva which has the same formula as water, what do we have? We get invertin, sugar, grape-sugar or glucose, and then what? Whenever we have a complex substance it tends to break up into simpler ones. It breaks up into two molecules of lactic and cid, as follows:

$$\underset{\text{Starch.}}{C_6H_{10}O_5} + \underset{\text{Water.}}{H_2O} = \underset{\text{Grape sugar.}}{C_6H_{12}O_6} = \underset{\text{Lactic acid.}}{2C_3H_6O_3}$$

This change is due to the presence of microbes. The presence of microbes leads to the generation of acids. This being the case we see the cause of the destruction of the teeth.

Before discussing the origin and development of the teeth it seems important that the student should first understand what we call the gross anatomy of the teeth. The tooth is developed from different sources. If we examine the embryo at about the sixth week, we find the first germs of the deciduous tooth. The first germ of the tooth is developed at the sixth week of the intra-uterine life; and at this early date we find a ridge, well defined, lying where the jaw will subsequently be developed; and this is called the epithelial ridge, quite contrary to the anatomy or histology that is presented to you by Gray. We find on studying the origin of the human teeth ten little bodies of epithelium so formed and located as to subsequently develop into ten deciduous teeth. The white body which seems to appear in the center of the tissues, is known as the cartilages of Meckel, named after the histologist, Meckel. The function of Meckel's cartilages is double. There is a maxillary portion and there is an auricular portion. The maxillary portion atrophies later in the process of development, while the auricular portion forms the malleus, stapes and incus of the ear. The maxillary portion atrophies but forms, however, an important part in furnishing a kind of a framewerk around which the inferior maxillary bone is formed. It serves as a skeleton upon which the bone will be formed. It is said to be an important part, for when it is destroyed we have imperfect formation of the inferior maxillary bone.

You will see a well-rounded ridge of the little white masses. It is made up of squamous epithelial cells, chiefly. The study of the epithelium is interesting. We have to deal with this in considering the origin and development of the teeth. If we examine a section of the mucous membrane we will see examples of these cells. The upper layer will be squamous or pavement cells, because they are pressed upon; then as we go a little farther down the cell is not flattened to such an extent, it has a hexagonal appearance; and still lower down we have the columnar or Malpighian cells, so called after Malpighi, the histologist. About the ninth week a little point extends up in the deep or under layer cells, or, the submucous layer so-called, and the next in turn is the Malpighian layer, and if we trace this along a little further we will see that that deep layer of epithelial cells has formed a kind of a pocket and has come to occupy a position such as this, with the under layer of cells of one side, and the Malpighian of the other side have formed in a crowd, and beneath that formation are these epithelial cells which formerly made up this time. It has grouped them together and surrounded them. These cells are to become enamel. You will see that as we go on a little further the enamel is formed from epithelium and the epithelium of the embryo within the columnar layer of epithelium, which it presses down, and from these cords. Subsequently the cords atrophy and leave just the enamel organ. Now the enamel is developed absolutely independent of the dentine. The dentine is a product of the submucous tissue.

Beneath the enamel of the teeth is what is known as the alveolar process. When the teeth come, these processes are developed. When the deciduous teeth are lost the permanent ones come in not exactly in the same positions occupied by the deciduous teeth but the alveolar process grows up around them and adopts itself to the roots. It grows upward or downward, as the case may be, around the neck of the teeth and supports them. Now, later, as the person advances in life, if the teeth are lost and there is no further use for these processes, there is a process of atrophy and the alveolar process wastes away; and thus the mental foramen lies near the top of the jaw in the aged. The bone becomes almost flat and very thin.

The surgical point that I wish to call your attention to is this: You all know that through this mental foramen passes the inferior dental nerve with an artery and a vein of the same name. They are in a position where they can be pressed upon and injured. More especially is it the case when the nerve, vein and artery make their exit upon the upper portion of the jaw. You can readily see, if you remember the anatomy of this bone, that a poorly constructed set of artificial teeth might cause pressure upon this nerve and occasion great pain, and in some cases, as a result of continuous irritation, produce a neuroma. It has been my duty many times to make excision of the inferior dental nerve to remove a neuroma which had been brought on as a result of pressure from artificial dentures put in by a careless dentist. Now it is hardly necessary for me to call your attention to the condition of the parts under such circumstances. After an hypertrophy is established the only means of correcting it is to remove the nerve. To prevent irritation of this point the denture should fit the gum as a saddle fits a horse's back, and prevent pressure upon the nerve just as the saddle prevents pressure upon the spine of the horse. There are quite a number of matters of interest with reference to artificial dentures and the evils they bring. It is not an uncommon thing to find cases of neuralgia resulting from pressure caused by poor artificial dentures.

The following table shows the relative frequency of caries of the various classes of teeth:

Statistics state that in 10,000 teeth the rate of decay is as follows:

Central incisors		642
	Superior, 612.	Inferior, 30.
Lateral incisors		777
	Superior, 747.	Inferior, 30.
Canines		515
	Superior, 445.	Inferior, 70.
First biscuspid		1,310
	Superior, 940.	Inferior, 370.
Second bicuspid		1,310
	Superior, 810.	Inferior, 500.
First molar		3,350
	Superior, 1,540.	Inferior, 1,810.

Second molar	1,745
Superior, 695. Inferior, 1,050.	
Third molar	366
Superior, 224. Inferior, 142.	

By consulting this table we find that the teeth of the upper jaw, with the exception of the first lower permanent molar, decay sooner, as a rule, than the lower. What is the cause of this? The teeth of the lower jaw lie in a position which natually affords them the greatest amount of protection; the lower incisors are small and well formed and are not so crowded as the upper ones, and they are constantly bathed with the alkaline saliva; and for these reasons they are preserved by nature better than the others. It is a well-known fact that the superior teeth are not so well cleaned. Their surfaces are broader and fissures are in them, and thus they are more liable to decay. The inferior incisors are better formed teeth. In the superior teeth we have little pits on the lingual or palatal surface which are receptacles for particles of food and the retention of secretions, and thus caries is established.

If we look at the lateral incisors we will see about the same proportion, only the superior laterals decay more frequently than the central. In the laterals, on the palatal surface, we find little sulci, pits, or anatomical defects, and there is the origin of decay, hence the laterals decay more frequently than the centrals.

The cuspids, you will see do not decay as frequently as the incisors. The cuspids are better formed and conical so that they clean themselves and thus decay less frequently.

If we take the first bicuspids we note that they decay more frequently than the teeth just named. They have two cusps, and between these cusps is a fissure, and food lodges in this fissure, hence the tooth decays more frequently. Sometimes the fissure is not present, but when the fissure is there it most always decays.

The first you will see decays 940 times in the superior and 370 in the inferior, and that is due to the form. The inferior has two cusps, the inner one of which is rudimentary, but it has not so many pits and is better formed.

Now we return to the two bicuspids. You see decay was present in 1,310, but in the superior we have 810 and in the inferior 500. The second bicuspid is more frequently carious because it is in contact with the broad surface of the first molar where food and other materials are more readily retained than between the two bicuspids themselves, and hence they decay from the side just as apples in a barrel decay around one already decayed.

We have 3,550 cases of caries of the first molar and in the inferior a greater percentage than in the superior. This is due to the fact that the lower molar has a very broad surface; it has pits and sulci in it, and these, with its early eruption, are the causes of the very great extent of decay and the frequency of caries found in it. It is not capable of resisting the action of decay.

Caries of the teeth is a disease of youth or early life. You saw the reason why and how decay began on the proximal surface where cleanliness is not possible, and where pits are found and form places for the reception of particles of food; how this tood fermented and decomposed by the action of microbes ever present in the oral cavity. It is one of the most productive fields for their development. The mouth is especially adapted to the growth of bacteria. The temperature and conditions are all conducive to their growth.

The greatest amount of good done by those who care for others is to impress upon them the necessity of thorough cleanliness. It is a matter of very great surprise to me when I see a strong man come before me and find one or two strong teeth lost because he has not cared for them. The tooth having been neglected it has decayed, and for want of good advice the tooth is lost. You would think very little of a surgeon who would advise amputation for a medullary abcess, and yet caries of the teeth is the same, but how many dentists there are who advise extraction of a tooth because it has an abcess in it, in the pulp. While the loss of a tooth is not to be compared with the loss of a limb, yet the circumstances and conditions are exactly the same, and you have no more right to have teeth extracted simply because you do not know what is the matter with them than you have to advise an amputation under such circumstances.

Some one asks, "What is good for the toothache?" I answer by saying: "It depends on what is the matter." There are as many different kinds of toothache as there are of headache. You would find out whether there was any caries and whether the pulp was exposed; and whether there was a cavity which would actually or nearly expose the tooth pulp, and thus cause irritation. If there was, then that would likely be the source of irritation. We will have pain and congestion where there is irritation, and finally an inflammation, and then a termination by suppuration. These conditions occur in the tooth the same as they would anywhere else in the body.

If you have a congestion of the dental pulp what is the result? You may have a congestion without a complete exposure. You understand the structure of the teeth. The pulp cavity is so formed that there cannot be expansion and hence there must be extreme pain; and there is no way of relieving that except to take off the pressure. If the pulp is not quite exposed, the pain will be more severe because it is covered by this unyielding wall and there can not be any expansion. The course to pursue is to have an opening made in the tooth and make use of local anesthetics and antiseptics. The best way to do this is to open the tooth and permit the blood to escape, and then having allowed this congested blood to escape you would make use of an application in this manner: A small pellet of cotton, no larger than a pin's head, should be saturated with a 95 per cent solution of carbolic acid, placed in a cavity and sealed therein by another pellet of cotton saturated with Sandarac varnish. This last piece of cotton should be large enough to fill the cavity. About the second day this ought to be changed, or the next day for that matter. There is no course to pursue with a pulp like this except to devitalize it. Where there is a cavity, filling will do; but with a pulp of this kind it must be devitalized.

The next time you see the patient you will make use of another application·

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Arsenici, gr. x.
Morphiæ sulphatis, gr. x—xx.
Acidi carbolici q. s. ad to make of creamy consistence.

Then take a very small pellet of cotton, as small as it is possible to make it, not so large as a pin's head and saturate it with the above mixture; then take the cotton you have saturated with the arsenic and apply it the same way to the pulp, as you did the first application which you have removed to substitute this one. This must be done quickly so as not to allow the saliva to enter the cavity. You may think I am overcautious on this subject, but I have seen a great many accidents happen from its use. You have in the first place applied the carbolic acid for the purpose of removing pain and irritation of the parts; for carbolic acid will do this as it is a local anesthetic. It allays inflammation and reduces the inflammation of the pulp and prepares it for the arsenic. If the arsenic were to be applied to the still inflamed pulp, it would cause a more severe pain, for it is an irritant to the tissues. Sometimes, however, repeated application of the arsenical preparation may have to be made to completely devitalize the pulp. This may be done safely. If there is only a little of the pulp remaining in the cavity it would not be well to put in the arsenic, for it might go beyond and destroy the tissues. Carbolic acid or chromic acid would do the same thing.

Now what is going to happen if you do nothing more than devitalize it? The course which you have pursued will be a means of relieving the pressure and the inflammation, but the patient is almost certain to have pains following. The pain will then be in the top or bottom, as the case may be, of the tooth. The diseased parts must be removed, for we will have sulphuretted hydrogen from this decomposing pulp; and if this cannot pass out through the tooth it will pass out through the apicial foramen, and cause inflammation of the pericementum, attended with all the swelling and pains that are characteristic of that disease. The patient has a pericementitis. In the first place, had the pulp been fully devitalized, thoroughly removed, and the tooth properly filled, it would have put an end to the trouble. And so the preservation of the tooth, no matter if the pulp is exposed, is accomplished if the devitalization of the pulp and filling of the cavity is performed in a thorough and antiseptic manner. We used to have inflammation following this: that was due to septic material that was not thoroughly removed. Now we can fill a tooth and be sure it is all right, because we have means of removing all septic matter. We will now take a patient that has not been treated and the pulp is exposed; it has gone on from time to time and the pulp has finally died, and then the pain ceases. By and by inflammation becomes established in the membranes, and then he has a pericementitis. His face begins to swell and he complains of extreme pains; of a throbbing pain which is different from the sharp lancinating pains characteristic of the exposure of a dental pulp; every motion of the head causes pain. with the throbbing of the blood up through the tissues. And then what are the effects of this disturbance? There is first an itching which usually precedes the inflammation, a feeling that if he could press it, it would give him relief, and he bites upon it. But if the inflammation in the tooth progresses, soon he can not press upon it; then the tooth feels longer than the other teeth; it is longer than the others, for the membrane which surrounds the end of the root has thickened in consequence of the inflammation, and as a result of that the tooth is pushed slightly away from the socket. He finds he can not use it without causing him pain, and his face may swell to the extent of closing the eye; and the line separating the cheek from the nose may be obliterated.

What is all this disturbance? It is the consequence of pericementitis, which may be attended with an inflammation of the periosteum covering the maxillary bone. We may have this inflammation terminating in an alveolar dental abcess. The tooth is not the cause of this disturbance, it is the condition within the tooth; and you should remove the cause of the trouble, but do not remove the tooth. Blood-letting might give the patient the relief sought.

You might make use of an incision down to the maxillary bone; passing the knife freely through the tissues and down to the bone. A sharp-pointed bistoury would be used for this incision. You might make use of free scarification of the tissues and not extract the tooth. The loss of the teeth is especially important to lawyers, clergymen, etc., as their loss seriously interferes with their speech. It is well and advisable to preserve the teeth if possible, and there is more demand for this now than there was ten or fifteen years ago, while there can not be perfect digestion without perfect mastication.

The death of the pulp need not necessarily be due to exposure. It may be due as a result of a shock or injury; it may be due to extreme changes of heat and cold. I presume there are other causes for the destruction of the dental pulp, but these are among the most common. However, the most frequent cause of the destruction of the dental pulp is the result of exposure from dental caries.

The pulp dies and resolves into the simpler substances of which it is composed—sulphuretted hydrogen and ammonia—and these gases forming may not find their way through the tooth, and cannot escape from the cavity except through the foramen. This causes pericementitis, as I have before stated, and we have all the cardinal signs of inflammation, heat, redness, swelling and pain. If neglected, if not treated properly, as I have before described to you, these gases will go on causing inflammation in the surrounding tissues, and cause other abscesses.

I told you when I met you last that pericementitis is due, in a very large percentage of the cases, to the destruction of the dental pulp; and that the changes which occur about the root of a tooth, or the departure from a normal condition, was also due, to a very great degree, to the death of the dental pulp, and in the formation of an alveolar dental abscess.

An alveolar dental abscess is a circumscribed cavity containing pus dependent on the death of the dental pulp.

You often see teeth discolored which have no carious cavities in them. Such a tooth has been subject to an injury sometime which has resulted in death to the tooth pulp. This discoloration is due to the coloring matter of the blood, the hematin which enters the tube of the dentine imparting to it a dark color.

The blood-corpuscles themselves could not enter the tubules because they are larger. The dentine of the teeth will be found to be completely discolored throughout their entire substance, and the enamel being translucent shows the discolored substance beneath it. Pericementitis terminates either by resolution or suppuration.

The irritation of the pericementum which is followed by a pericementitis is to be treated by opening the diseased tooth evacuating the gases, relieving the pressure on the membrane at apex of root and in addition free scarification is another most potent agent in relieving the inflammation, cutting deeply over the diseased portion with a bistoury, down to the alveolar process, thereby allowing the excess of blood to escape. If, however, we do not succeed in controlling the inflammation, we may have an abscess, and pus will make its exit through the surface which affords the least resistance, and that surface is the anterior alveolar plate.

The first impulse of the surgeon would be to make an incision and allow the pus to escape. We would cut freely into the abscess, and then anti septically cleanse the anterior of the cavity. It may recur unless some means be employed to prevent its recurrence.

We will hermetically seal the root of the tooth so as to prevent the recurrence of the inflammation. If we do this we will have no recurrence. This root then must be cleansed antiseptically after it has been opened, and filled to the very end with a substance that is impervious to moisture; the most used now of all materials for that purpose is gutta-percha, which is not capable of absorbing moisture. The root canal is first cleansed thoroughly and dried. We use electrocautery wire, which dries the cavity and its action is therapeutically very desirable. It is one of the most efficient germicides we have. This prepares it for the reception of the filling, which is pushed well into the cavity of the root and thus seals it hermetically.

Having filled a tooth in this way there will be no further trouble. So many of you have seen cases where teeth have given trouble, where filling seemed to do no good, and you may say, "we had better have this out."

This trouble was due very likely to the lack of skill. It may, however, occur sometimes. The condition of the system may be such that any irritation may cause an inflammation. The person may be in a low condition, so that a little irritation will result seriously.

The tooth is not a dead substance, it is nourished from the pericementum and the pulp; so, when the pulp is destroyed, the tooth is not devoid of nourishment and if properly treated it will remain good forty or fifty years after the loss of the pulp.

I told you that the pus would escape through the point furnishing the least resistance. There is an exception—the pus may pass through the bone, the alveolar process and the surrounding parts, and eventually escape into the mouth. It will not always do that. Look at this case—apparently similar but quite different. The pus has passed through the anterior alveolar process, but it has not perforated the periosteum, but has bored behind it, lifted the periosteum from the bone, and left it uncovered. As a result of the removal of the periosteum from the surface of the bone we will first have a periostitis excited; and if this condition is allowed to continue for any length of time we may have necrosis of the bone, or gangrene as we find it in other portions of the body.

The pus may find its way back into the nasal cavity, into the surrounding parts or into the fauces. and the patient may be treated for suppurating nasal catarrh.

You have means at your command by which you can determine whether the person, who is supposed to have catarrh, has any bad teeth. When we find out what the matter is we will be better able to successfully treat the patient.

We may have the pus discharging into the antrum of Highmore. The antrum is a pyramidal shaped cavity with the base of the pyramid toward the nares and the apex toward the malar bone. It is often divided into several cavities; it may be divided into five or six. Sometimes plates extend up dividing the antrum into different chambers. If an abscess were to form at the tip of a bicuspid tooth or a molar, and if it should follow the course in its escape affording the least resistance, it might perforate the antrum, because the root of the tooth often perforates the antrum; sometimes there is only a membrane, no osseous substance intervening; nothing except the membranes—the pericementum, the periosteum and the mucous membrane. Of course an abscess under such conditions is almost certain to go into the antrum, and thus we have so many diseases of the antrum caused by diseased teeth. I think I can safely say that eighty per cent. of all the cases of diseases of the antrum are due to the teeth; and these cases are much more common than many people presume. Many people have abscess of the teeth and do not know it. The fact is the roots of the teeth frequently enter the antrum, and when they do not, they are separated from the antrum by a thin plate of bone, and thus the floor of the antrum is easily perforated. The effect will be to cause inflammation of the antrum, and if anything occurs to close the opening into the nares, there will be a great deal of pain. The cheeks will gradually extend out, and in some instances it may find its way back through the orbital plate. I have seen several cases where the pus found its way out in that way. This condition may be very misleading. Inasmuch as the teeth are more subject to disease than any other part of the face, it is well to give them a careful examination when any disturbance occurs in that region. Sometimes the pus will take an outward course.

The teeth of the lower jaw are subject to the same diseases, but the sequelæ are different. We have the same conditions, the same diseases of the bone, and the formation of an abscess at the root of the tooth; and we sometimes have a condition where the pus passes out through the anterior alveolar plate into the mouth. Sometimes it finds its way into the alveolar cavity, and then makes its exit beneath the chin. The general practice is to make injections into these, but they always refuse to heal under such circumstances. You might as well try to stop the water-works by washing out the pipes. What you must do is to make an opening into the tooth and cleanse it antiseptically.

Here is a case where the pus, instead of finding its way through the anterior plate, has gone straight down through the bone and forced an exit through the chin. This may gravitate down the neck and find its way out above the clavicle. It may be mistaken for abscess of the lymphatic glands. Now if there is great destruction of bone about the teeth, you may say they must be removed. Not necessarily. If the teeth are loose they may be surrounded with new substance.

Cases are numerous where a great portion of the alveolar process has been removed, a good portion of the maxillary bone has been taken away and yet the process of repair, which nature so kindly gives us, provides new tissue which surrounds the teeth and supports them. If, however, there is necrosis of bone and the loss is such as to involve all the bone the teeth will be lost.

Palatal defects and defects of the lip cause, perhaps, more embarrassment to the general surgeon in the performance of operations for their radical cure than anything else in the field of surgery. It is a well-known fact that surgeons usually dislike to perform these operations on the palate for a number of reasons. One is that the results secured have not been all to be hoped for; another is the uncertainty of success. The operation on the soft palate is staphylorraphy.

That phase of the subject which pertains to articulation, to proper enunciation of words, is of interest, and is a matter of great embarrassment to one afflicted with this defect, for it is always attended with a guttural accent which can not be mistaken for anything else. One of the serious conditions to one afflicted with cleft palate is that of pharyngitis. I have never seen a patient whose palate was divided, who did not have a pharyngitis due to rapid passage of air back onto membranes that are not intended to be subjected to such sudden changes, or to tolerate such irritating influences; consequently these membranes become subject to chronic inflammation.

It has been said by distinguished authors that most children born with cleft palate die in early infancy from want of nutrition—literally, they starve. Why? Simply because food regurgitates through the nasal passages, i. e. deglutition is imperfect. One of the first signs noticed in cases where the palate is divided, is the return of food through the anterior nares; the child cannot swallow or draw milk from the breast because of inability to form sufficient vacuum; finding he cannot take nutrition he refuses to try. A rubber plate has been so constructed and fitted to a rubber nipple that food can be taken and passed down into the stomach without any regurgitation. In looking over the history of the subject, it is a matter of great surprise to me that radical measures were not adopted in early infancy for the purpose of giving relief to the child suffering in this way. Why surgeons wait until ossification of the bones is complete, and until dentition of deciduous teeth has become finished, I have been unable to comprehend. I cannot see what is expected or hoped for by delay; certainly nothing is to be gained by this delay; every day prevents, by so much, the success of the operation. There is no reason why an operation should not be performed in early infancy, or just as soon as the important organs of the child are found to be performing their functions properly, from ten days to three months of age; then operate for closure of the palate. Let me say concerning operation for closure of lip, while I antagonize the views of some most conspicious in surgery, that it should not be made until the palate is perfectly united. The first step ordinarily taken is to close the lip, Can we give any good reason for such procedure? Here is a patient with complete congenital cleft extending through the hard and soft palate, and through the lip. Perhaps single and perhaps double hairlip.

If you examine at the fifth month of intra-uterine life, the superior maxillary bone is developing from four centers; you will find maxillary bones and inter-maxillary bones—sometimes called incisive bones, since they are intended to support the incisor teeth. Separation would be between the cuspid and the lateral incisor on either side, and in the median line would be a suture.

We will suppose there is a defect in the formation of these bones, or non-union between the maxillary and inter-maxillary bones, then we will have fissure in the lip. It occurs most frequently on the left side, and, if on one side alone, is known as single hairlip; or if lack of union is on both sides we have double hairlip; if this failure to unite extends back through the median line, and the parts do not unite as they ordinarily do, we have congenital fissure or congenital cleft palate.

You must examine the history of the indivual as well as the family history, and in doing so I have found that the mother's father was afflicted with hairlip or cleft palate, and that in the third generation away this also existed. While this is not positive proof, it indicates that the defect may be hereditary.

These operations should be performed early and prior to operation on lip. Among the cases of hairlip and cleft palate nearly all have had the lip operated on and the palate neglected. You will find that the anterior borders of the alveolar process have been brought together but have not united. Now when they were brought together by contraction of the orbicularis oris muscle the anterior part was brought together, while the posterior part remained separated. This shows that pressure during the early life of bones, if we resort to some measure by which we can bring the bones together, will cause them to unite and we will have no difficulty in after life. We will thus prevent pharyngitis and difficult articulation of words. We will have the child, when he arrives at an age old enough to speak. able to articulate distinctly, for the parts being well united, the palate will be wholly restored and articulation will be normal. This is an important reason. This non-union is said to be due to lack of calcium salts in the food—the elements which go to the building up of bone; the phosphates, these being in insufficient quantity to develop the osseous structure. You know in a part that has not been used, if the muscles are not put to use they lose tone and atrophy, consequently later in life we will fall short of tissue necessary to make the operation a success

What is success? Surgically it would be a success, to bring the parts together and have them unite, but we have not succeeded in accomplishing the object desired, which is to effect perfect articulation of speech, or to utter distinct sounds. Without the palate the tongue cannot do this work, for air will pass out through nasal cavities, and thus the moulding of the expired air into distinct sounds is impossible. If we make the operation early while the parts are soft and before the teeth are formed, we will not subject the patient to any inconvenience in consequence, by any lack of the proper relation to the teeth, which would occur later in life when means to effect perfect closure were adopted.

PROF. BROPHY'S OPERATION FOR CLOSURE OF CLEFT PALATE.

The operation should be done early, as early an age as the fourth or fifth week of life, and the mode of procedure is about as follows:

First, vivify the edges of the fissure. A mere scraping of the mucous membrane will never suffice to bring about union which will be permanent and satisfactory. On the hard palate trim the opposing surfaces of the bone as well; this well done will secure a sufficient exudate to make the operation a successful one, in this respect at least. The knife will easily cut through the soft bone of the hard palate and alveolar process. Then raise the cheek, and well back toward the posterior extremity of the hard palate, and high enough to escape all danger of not being above the palate, insert a suture from side to side. **A** wire suture of silver should be used. Now, nearer to the front portion of the palate insert another wire from side to side. Then we have a wire passing over the palate in front and another behind. Next take a lead button, moulded to fit the convexity of the part and long enough to reach between these inserted wires. Have it provided with eye-holes, through which are passed the protruding ends of the wires, and now from both sides, twist the wires together; i. e., twist the right side end of the posterior wire with the right side end of the anterior wire, and the same on the left. It is better to make a practice of always twisting the wires in one way, either from right to left or from left to right. These sutures are our heavy tension sutures, and, once approximated, the parts can not be separated by the patient.

If you are unable to close the fissure with these wires, if from lack of tissue, or from firm resistance of the parts it cannot be done, there is a further method to be employed which will obviate these difficulties. With your knife, after the cheek is well raised, divide the mucous membrane just over the malar process, well up on the side of the face; here insert the knife in a horizontal direction, and when well inserted, sweep the handle around from one side to the other, as, from behind forward. In this way a maximum amount of bone is divided; and a minimum amount of the mucous membrane. This done on each side, the bone can very readily be moved toward the middle line.

To make perfectly clear to you where those heavy tension sutures are inserted, led me add that one is anterior and the other posterior, to the malar process. They are made from without inward, in order to carry the point of the drill upon the nasal surface of the hard palate. The approximated edges of the fissure are sutured as in any wound, with ordinary sutures. I have a peculiar form of needle, however, which I think better adapted to this work than the ordinary needle.

There is but little hemorrhage connected with this operation for closure of cleft palate. What I most wish to press upon your minds, is the attention you must pay to the details of the operation; the cutting off of enough of the fissure's edges; the care to secure accurate co-aptation of parts, which should always be dried and examined after the operation. The after treatment is very simple, and such as would be indicated after any such surgical operation. Of course the patient must be kept on a liquid diet. The lead buttons may cause a slight abrasion of the mucous membrane, but is nothing serious, and above all things, gentlemen, never divide the tensor palati muscle. Once done, its fibres retract and its use is lost. As I told you a few moments ago, this muscle may always be stretched, or temporarily paralyzed, if its tension action cannot be overcome by means of the tension sutures.

The treatment of fracture of the maxillary bone, is sometimes attended with great difficulty. If you study the maxillary bone you are impressed at the first that it is very strong, that it seems very strong just at this point, the external oblique line. But if you turn it over and examine it you find that the bone narrows down and becomes thin and weak just beneath the internal oblique line. A little further forward it is strong, because there we have the external oblique line. You may ask me where is the inferior maxillary bone most frequently fractured? We will remember that the bicuspid tooth is very large, that its greatest width is from side to side, and because of its great depth, the bone is weakened at that point just as a post would be with a large auger hole in it. The next most frequent site of fracture is where the facial artery passes over the bone, at the little notch through which the artery passes and the bone is weakened on account of the groove. There is a difference of opinion upon this point, but I think the most common seat of fracture is at the bicuspid tooth.

Now in the case of the fracture of the bone at the bicuspid tooth, what would be the displacement? The long fragment is drawn down by the action of the genio-hyoid, genio-hyo-glossus and anterior belly of the digastric muscles, and the short fragment is drawn up by the masseter and pterygoid muscles. The teeth in the long fragment fail to meet those of the upper jaw. This is one of the most perceptible defects. Then we have a swelling, pain sometimes, and it is a fact some people who have sustained this injury are unaware of it until the face begins to swell and they cannot masticate their food. And we find in some cases that an abscess has formed in consequence of the irritation set up by the fine, sharp point of the bone irritating the soft parts. I have known this to occur; a person will notice that a tooth is loose and will apply to a dentist to have it removed when the tooth was loosened by being in the line of the fracture; and if the dentist should remove the tooth we are deprived of one of the best means of correcting the deformity.

The bone may break anywhere throughout its substance, and if we get a fracture at any part, except in the median line, and within the substance of the masseter, we will get a displacement. If we get a fracture through the genial tubercles down through the bone there would be no displacement, because the muscles hold the pieces in place. This rarely happens, however. The fracture usually takes at least an oblique course, and thus we have a long and short fragment. If we should have a fracture in the substance of the masseter the muscles would hold the parts in apposition and prevent displacement. If we have a fracture of the bone in the neck of the condyle then there would be lateral displacement.

The most satisfactory means of treating fracture of the lower jaw is to secure the bone in such a way as to hold the teeth in constant contact. Fix the jaw and keep it quiet until the process of repair may be completed, which requires from six to eight weeks. It depends a good deal upon the general condition of the patient as to how much time will be required for the bone to reunite. A young robust person will have the process of repair completed in six weeks. A person whose system is somewhat below par, who has some specific disease, requires greater time. In the case of children the repair will take place in much less than six weeks.

Accidents sometimes occur in the form of dislocations, accompanying fractures; that is one of the complications of fracture.

A fracture of the coronoid process, or of the neck, can best be treated by holding the teeth in quiet contact. When we have teeth, as we most always do, we can accomplish that by means of ligatures or wires, literally tying the jaws together with wires. A person thus treated is free from all incumbrance. We do not need to make splints of rubber or any other material, and if we can succeed in treating the patient so he can be comfortable we have accomplished a great deal.

As to the method of ligating the teeth together—a ligature is passed between two teeth, and we use the wire, twisted tight around the neck of the tooth, in this way passing a ligature around one bicuspid and a molar, or we may utilize all the teeth on both the upper and lower jaws. Then twist together all of the ends, with the ones above, and in this way the teeth will be held firmly together and the patient can not move them. The ends of the wire may be placed in the grooves between the teeth and thus prevent laceration of the cheek.

Now you have succeeded in placing the teeth so that they may remain in quiet contact until the process of repair is fully completed. Feed the patient by carrying the food back of the last tooth. You can always do this even in very fleshy people. You can always carry food back there. It is never necessary to take out the anterior teeth. Keep the patient on liquid diet if you ligate the teeth in this manner. This treatment is applicable to all cases of fracture of the jaw where there are teeth present. If you have an old person who wears a full set of denture, and their jaws are more liable to be broken, you would proceed in a different manner.

Another method is to retain the broken bones in quiet contact by gold bands. A little more expensive, it has several advantages over the wires. The wires will collect the secretions, and may corrode. It is the adjustment of the teeth by means of gold bands, so adjusted to two or three of them that they fix the teeth together, and adjusted in such a manner as to hold the bone in perfect quiet. This is accomplished in the following manner. Place a gold loop about the second tooth from the fracture, then by careful manipulation, place one, as a continuation of the first, about the tooth next to the fracture and from this have an extending loop left which will fit accurately about the first tooth on the other side of the fracture. Proceed in exactly the same manner from the other side of the fracture and after placing the ends in the exact apposition fasten your gold bands solidly.

Sometimes we find cases where the bone has failed to reunite, and this is the class of cases which give us the most trouble. If a patient comes to you with an ununited jaw, and he has one or two fistulæ, the only way to do is to open the scar down to the bone and get it thoroughly united.

A SIMPLE METHOD FOR THE DIAGNOSIS AND PROGNOSIS OF ORGANIC VALVULAR DISEASE OF THE HEART.

BY CHAS. J. WHALEN, M. D.

Remembering the difficulty which I had as a student in retaining at all times the complex operation of the valves and chambers of the heart, and the modification of sound produced in them as a result of disease, I will endeavor in this paper to present a clear and simple statement of the subject so that any student or practitioner of medicine after reading it carefully will have little difficulty in unravelling any case of valvular disease of the heart whether complicated or uncomplicated.

The anatomy and physiology of such a complicated machine as the heart should be thoroughly mastered before one is able to pronounce intelligently upon its pathological changes. I have often had the last statement forcibly impressed upon me by students in the class-room, who were unable to apply practically what they seemed to thoroughly understand.

It is essential that we should first know the normal or healthy heart sounds in order to detect deviations therefrom, and we should be able to localize these deviations inasmuch as they indicate disease.

In examining the valves of the heart it is first necessary to note whether there is any deviation from the normal sounds; listening first at the apex and then at the base, and at the same time noting the condition of the right and left cavities; here it should be noted that the left chambers are perhaps four or five times as often affected as the right.

In studying the normal heart sounds, it will be well to remember their cause. The first sound is synchronous with the systole of the heart, and is due to one or all of three causes; viz., the contraction of the muscular ventricles, the sudden closure of the auriculo-ventricular valves, and the impulse of the heart against the chest wall.

The second is synchronous with the heart's diastole, and is due to the shutting up of the aortic and pulmonary artery semilunar valves.

In order to clearly differentiate valvular lesions of the heart, we must constantly keep in mind the action of the heart during systole and diastole. We should also bear in mind the working of the valves at the apex and base. The valves at the apex being the bicuspid guarding the orifice between the left auricle and ventricle and the tricuspid guarding the orifice between the right auricle and ventricle. They open and close simultaneouly, so at the base the aortic and pulmonary semilunar valves guard the orifices of the aorta and pulmonary artery respectively, these also act sychronously. So, in making our diagnosis we should fix our mind upon these two sets of valves separately and notice if the opening or closure of these orifices is defective, i. e., when they close imperfectly, which permits regurgitation of blood through the orifice; (insufficiency) or when by deposits upon the valves or atheroma, the orifices are narrowed obstructing the forward flow (stenosis). Keeping these facts always in our mind we will be able to accurately locate the injury. We have then: A. Systolic.—1. Mitral regurgitation. 2. Aortic obstruction. Diastolic.—3. Aortic regurgitation. 4. Mitral obstruction. B. Order of frequency the same as in the above table. C. Order of danger. 1. Aortic regurgitant. 2. Mitral obstructive. 3. Mitral regurgitant. 4. Aortic obstructive.

Mitral regurgitant (systolic), is caused by the flow of blood from the ventricle to the auricle. It is loud and heard at the left apex, and is transmitted outwards and backwards, being often distinctly detected at the angle of the scapula. It is frequently accompanied by a purring thrill. Pulse (if regular) is soft, small, weak and intermittent. Result.--More or less congestion of lungs, liver and kidneys; the venous obstruction often causes pulsation in the larger veins and liver; and bulbous enlargement of the terminal phalanges of the fingers and toes. It rarely terminates in sudden death.

Aortic obstructive (systolic).—The affected valves obstruct the aortic opening during systole; so as to prevent the blood flowing freely out of the ventricle. The murmur will be heard at midsternum opposite the fourth costal cartilage, being transmitted upward to the right second cartilage and sometimes even to the carotids. The sound diminishes as the stethoscope is moved toward the apex. Pulse hard, wiry resisting, and sometimes visible; in later stages soft and slow. Results:—Often there is little suffering for years on account of the compensating hypertrophy of the left ventricle. Sooner or later, however, breathlessness and palpitation supervene; the arteries are unfilled and syncopic and epileptiform attacks come on.

Aortic regurgitant (diastolic).—Here the aortic valves close imperfectly, permitting reflex of blood from the aorta. It is heard most clearly at the level of the fourth interspace at midsternum, it is transmitted down to the ensiform cartilage. Pulse peculiar, being sudden, sharp and jerking (shaky). The second sound of the heart is muffled and indistinct. Results: The patient suffers from deficiency of blood in the arterial system, is pallid and liable to syncopic, and angina-like attacks. Is apt to die suddenly.

Mitral obstructive (diastolic) is due to impediment to the passage of the blood from the auricle to the ventricle. It is rarely heard, however. When audible it is most distinct at the left apex. Results:—This obstruction is a very grave matter and is followed by hypertrophy and dilitation of the left auricle, clotting in the appendix, edema of the lungs, distension of the right side of the heart and intensification of the second sound at the base. The heart's action is irregular. It sometimes terminates in sudden death.

All we have to do is to memorize the above in their order to diagnose and prognose successfully valvular disease of the heart.

Ein Fall von Scleroderma diffurum in Verbindung mit chronischen fibrösen Veränderungen in der Schildrüre, Verminderung des Thyrojodius und Zunahme der chromophilen Zellan und des Colloids in der Hypophysis. Ludwig Hektoen, mit angabe der chemischen analyze der Schelddrüse von H. G. Wells. Abdruck aus dem *Centrablatt fur Allgemeine Pathologie und Pathologische Anatomie.*

Acquired Umbilical Hernia in Adults; Comparative Frequency of Stone in the Bladder in the White and Negro Races; Splitting the Kidney Capsule for the Relief of Nephralgia; Symptoms and Treatment of Hepatic Abcess with Report of Seventeen Cases; Value to the Public of State Medical Societies. By Geo. Ben. Johnson, Richmond, Va. Reprints.

RESUME IN THE FORM OF OUTLINES OF PROF. HEKTOEN'S LECTURES ON GENERAL PATHOLOGY, FOR THE GUIDANCE OF BEGINNERS.

(Continued from page 104.)

II.

THE RETROGRESSIVE CHANGES.

Necrosis, Atrophy, Degeneration, Infiltration, Cysts—General distinctions.

1. NECROSIS.
    - Real nature of.
    - The chief post-necrotic changes: 1. In nucleus—karyolysis, karyorhexis.
        - 2. In cell body—loss of markings, disintegration, hyaline transformation, vaculation, hornification.
        - 3. In adjacent tissues—leucocytic accumulation, proliferation of fixed cells.
    - Causes: Chemical, toxic, mechanical, anæmia, thermal, trophic disturbances.
    - Anatomical and etiological varieties of necrosis—
        - a. Focal necrosis. Description of necrotic focus.
            - Causes: bacteria, soluble poisons of bacterial, vegetable, and animal nature.
            - Instances.
        - b. Fat necrosis—gross and minute description. Chemistry of—Relation to pancreatic disease and steapsin.
        - c. Necrosis with mummification (dry gangrene) or with decomposition (moist gangrene).
            - Conditions necessary for the development of each.
            - Examples and description of each.
            - Causes: 1. Diseases of vessels.
                - 2. Trauma.
                - 3. Extreme temperatures.
                - 4. Nerve lesions (decubitus).
                - 5. Ergot.
                - 6. (Progressive emphysematous gangrene.)
        - d. Necrosis with softening—primary, secondary.
        - e. Coagulation necrosis. Definition.

Examples: Thrombosis?, diphtheric inflammations, focal necrosis, infarcts.

Caseation—occurrence of in tuberculosis.

2. ATROPHY.

Definition.

Physiological: Senile (diminished repair), thymus, female genital organs, obsolete fœtal organs:

Simple and degenerative atrophy.

Description of atrophic organs e. g. heart, lung, bones.

Causes: 1. Inactivity (inability to functionate, removal of necessity for function).

2. Pressure.

3. Senility and marasmus (pulmonary tuberculosis).

4. Neurotic—destruction of cells in ant. horns of spinal cord.

Difference aetween hypoplasia, aplasia, and atrophy.

III.

THE DEGENERATIONS.

Dogmatic definition of degeneration.

1. Colloid degeneration.

Significance of term colloid; the physiological iodin-containing colloid of the thyroid and hypophysis; difference between colloid and mucus.

Colloid degeneration—thyreoid, hypophysis, kidneys, carcinoma?

2. Mucoid degeneration.

Physical and chemical nature of mucous and pseudomucous.

Physiological production of mucus.

Mucoid degeneration: catarrhal inflammation of mucous membranes, tumors, myxoedema.

Significance and causes obscure.

3. Hyaline degeneration.

Occurrence of, appearance of, relation to and distinction from amyloid material.

4. Cloudy swelling and fatty degeneration.

Description of gross and microscopic appearances of the organs in grave infections and toxic diseases.

Association of cloudy swelling and fatty degeneration —differentiation between albuminous granules and fat particles by means of acetic acid.

The nature, occurrence, distribution and results of cloudy swelling (albuminous or parenchymatous degeneration) and fatty degeneration.

Analysis of causes—disturbances of metabolism on account of:

1. Diminished O. and nutrient material as in local and general anemias, starvation.
2. Inordinate consumption of nutriet material as in excessive heart's action.
3. Direct action of poisonous substances as in infections and intoxications.

5. Amyloid degeneration.

Definition. Synonyms. Distribution among the organs. Amyloid organs are uniformly enlarged, of firm, inelastic consistence, contain homogeneous, glistening districts with color reactions with iodine and methyl violet.

Histology: ground substance of arterial media; pressure and degenerative atrophy of cells.

Chemical nature.

Cases—secondary change in cachetic diseases e. g. tuberculosis, chronic suppuration, syphilis, etc.

Consequences—permanent, circulatory disorders and degenerative atrophy.

Local amyloid formation and corpora amylacea.

Clinical Report on the Course of Pregnancy and Labor as Influenced by Suspensio Uteri; Contribution to the Technique of Operations for the Cure of Laceration of the Pelvic Floor in Women; Development and Present Status of Hysterectomy for Fibromyomata; Ectropion of the Cervix in Nulliparæ Resembling Laceration of Cervix; New Method of Suturing the Abdominal Wall in Celiotomy; Remarks on the use of the Buried Permanent Suture in Abdominal Surgery; Some Further Observations Concerning Movable Kidney; Vaginal Incision and Drainage of Suppurating Hematoceles due to Ectopic Gestations. By Charles P. Noble, Philadelphia.

Report of Two Cases of Syphilis with Remarks Relative to Ptyalism. By C. Travis Drennen. Reprinted from *Medical News*.

Stone in the Kidney. By Charles R. Robins. Reprinted from *Va. Med. Semi-Monthly*.

The Corpuscle.

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Ruby Red and Black: Colors of Lake Forest University. Orange: Color of Rush Medical College.

To Rush College, its Faculty, its Lecturers, Instructors and Demonstrators, its Clerk, and all who are in any way connected with the workings of the college, The Corpuscle extends its best wishes for a year of prosperity.

Our readers will notice another name in place of that of our former efficient Editor-in-Chief, who laid down his editorial duties with the December issue and, with the equally efficient Secretary-Treasurer, will retire from the Editorial Board with this issue of the Corpuscle. In our February issue we hope to say many good things for these retiring members and announce their successors.

In response to a popular demand we have given up a greater part of this issue to the publication of Dr. Brophy's valuable lectures on Dental Pathology and Surgery. Dr. Brophy's work needs no introduction to Rush alumni for his work in dental surgery is world-wide and we believe our readers will find his article of such practical nature that they will not miss the many other good things we have had to hold over to another issue.

Our attention has been called to a recent transom decoration that may be seen in the laboratory building. So has yours. No one has passed through but has noted it. It could not be overlooked, for it stands out in that dimly lighted hall where we have been wont to pass with bated breath and quiet tread and drives away all awe and reverence. Things have changed. A painter's brush has made things new and left an air of cheapness that reminds each passerby of a railway station or a country fair, or some such motley meeting-place. Why mar the portal to our library and to one of our favored departments—the pathological—by letterings thus.

WHAT SHALL WE READ.

To many comes the query at this season, what shall I read the coming year? There are so many good things, the magazines so numerous, the medical journals profuse, and books innumerable. Dr. Newell Dwight Hillis well expressed it when he said: "The mornings rain newspapers, the evenings increase events, the very skies rain pamphlets."

The student who reads nothing, who has no time for aught but study, is missing he knows not what. One man can not lay down a course of reading that would be adapted to all. Each man must do this for himself, but each one ought to do it. Systematic reading is alone of value and if but fifteen minutes a day be devoted, regularly, to some standard work, or magazine, the reader will be surprised to find in a few months how much ground he has gone over and, if he has chosen wisely, how much broader a man he is. Every student should take, or have access to, at least one good medical journal in order to keep up with current medicine, and one well-chosen secular publication will keep him in touch with the world outside of medicine. Many of our exchanges would be worthy your examination and many publishers will be glad to send samples if you will ask for them. We can but give, now and then, some crumb from the many good things in their pages and must leave you to become familiar with the many good things for yourselves, and familiarity will in such cases not be the familiarity that breeds contempt. Note the exchanges made mention of in the reading pages and advertising columns of the CORPUSCLE. On many of these we can quote you rates in combination with the CORPUSCLE that will enable you to save money. We will obtain you any publication published and at the lowest rate. Let us make you estimates for your 1898 reading.

HEARD ABOUT COLLEGE.

Don't forget the Presbyterian Hospital concert in the Auditorium, January 17th. We gave full particulars in our December issue. Get tickets of Caffee, and take two.

"Oh, if you only knew!"

Dr. H:—Define syphilis.

Mr. P:—Syphilis is a disease which often exists many years prior to infection.

One of the bright and shining lights in the junior class stated that the tricuspid area corresponds to the area of superficial cardiac dulness—and then spoiled his hopes for a 10 by adding—over the vermiform appendix.

"Be good! Be good!"

O. P. J. (Ingals' staff):—"This gentleman is 37 years old and a male."

Student to Miss Rutherford:—How about these orthopedic tickets?

Miss R:—Why, that comes under eye and ear doesn't it?

A large class in bacteriology were able to get off their bacteriology laboratory work during the vacation, through the kindness of Dr. Weaver. The class worked about five hours per day.

A number of students took advantage of the leisure afforded by vacation and attended the Apollo Club concerts, December 21 and 23. The succeeding concerts will repay any one for the outlay. See "adv." in December CORPUSCLE.

Dr. Le Count:—What is the canal leading from the back of the tongue to the pharynx?

Mr. K....e:—Canal of the neck.

Prof. Brower:—How would you treat ulcer of the stomach dietetically?

Mr. M:—Give the patient a rectal anemia.

"Oh, if you only knew!!

In anatomy:—"One of the branches of the fifth nerve supplies the muscles of the teeth."

In chest, throat and nose:—The blood passes from the right ventricle to the left ventricle, er....no....to..ah....to the liver!

In medicine:—The chief differences between the congenital and acquired forms of syhilis is that the congenital form appears earlier in life.

Through the courtesy of Drs. Hektoen and LeCount a number of juniors were enabled to do work in pathology during the vacation.

In materia medica:—Name a third alkaloid of opium, Mr. P. Morphin and codein have been mentioned.

Student P. (taken by surprise):—"Ah....meconium." (He doesn't know yet why the class laughed, do you?)

Will change the iceman:—Alfred, the janitor, discovered a fire in the ice-box the other morning. The college wants no more frappe'ed fire-water.

"Be good!! Be good!!"

Dr. Sippy:—How you treat acute miliary tuberculosis?

S.....n:—Judging from the prognosis, I would think treatment unnecessary.

Dr. S:....Treatment would be symptomatic, would it not?

S:—Yes sir! And make it as pleasant as possible for the patient.

Dr. Harold N. Moyer, assistant to the Neurological Clinic, while defending himself from two footpads on Adams street, near Ashland Boulevard, December 8, was shot in the thigh. The Doctor has had the best of care at the Presbyterian Hospital and the injured limb is doing nicely.

The recent lectures in electrotherapeutics, have been made more interesting by the use of an electrostatic machine of the latest type with the X-ray attachments. Each member of the class was given an opportunity to see the bones in the hand.

The trustees of the Newberry Library tendered a reception to Dr. Nicholas Senn in the library auditorium Wednesday evening, December 8. Many physicians, as well as numerous laymen, participated. President Blatchford and Dr. Henrotin, president of the Chicago Medical society, were the speakers of the evening.

We would like to know WHY——

The boys rap on wood when S.....n gets up to recite.

They insist on calling S.....n doctor.

Dr. H. calls SHINnick, ShinNICK.

A Section D. man don't get his hair cut.

We have to pay our fees by the 15th.

Every student doesn't buy the CORPUSCLE.

They call S......s stethoscope.

The fellows don't pay the football management what they suscribed last spring.

H......n don't quit playing checkers.

Not Prof. Hektoen's views:—The latest and only pathology of tumors, so a green tinted circular tells us, is as follows:

TUMORS:—OVARIAN, CANCEROUS, FIBROUS.

Tumors consist of deposits of humor or morbid material, generally in some gland or organ. The most common are ovarian, cancerous, and fibrous. Tumors depend upon a wrong of the digestive or nutritive functions and humors or morbid material in the blood and circulating fluids, which settle in a tissue or gland. The humors settle only when the blood is filled with more humor than can be carried in the circulation. It will be readily seen, therefore, how absolutely neccessary it is that the digestion should be restored and the humors eradicated, before the tumors can be dissolved, reabsorbed, and eradicated from the system."

On December 14, an Athletic Entertainment was given in the C. C. D. S. Gymnasium for the benefit of the basket-ball team. The entertainment consisted chiefly of heavy and light-weight wrestling, several sparring exhibitions and a basket-ball game between the Rush C. C. D. S. team and a team from the West Side Y. M. C. A. Cory, 1901, and Stevenson, '99, gave an interesting and scientific exhibition of heavy-weight wrestling which resulted in a draw; while in the light-weight contest, Freeman, 1901, succeeded in throwing Schiller, '99, in two successive bouts. The basket-ball game resulted in a victory for the Y. M. C. A. team by a score of 5 to 4. Sloan, 1900, won the high jump. Music was furnished by the C. C. D. S. Band.

FOOTBALL CAPTAIN.

At a meeting of the football players, December 11, Walter B. Cory of Viroqua, Wis., was unanimously elected captain of the eleven for the ensuing year. Cory is a member of the freshman class and comes to Rush from the University of Wisconsin, where he played center on the " 'varsity" eleven a n also rowed on the crew. During the past season, by his faithful and conscientious work, he has contributed largely to making the eleven what it was. Cory's ability and experience will make him a valuable leader for the eleven and if the college will show a little spirit in the matter of material there will show a little spirit in the matter of material there will be no doubt as to the result of the next P. & S. game.

WITH OUR EXCHANGES.

The holiday number of *Outing*, the recognized authority in the field of amateur sport, contains a charming variety of seasonable sketches and beautiful illustrations. Among the leading sporting features for January are: "Rabbits and Rabbiting," by Ed. W. Sandys; "Canadian Winter Pastimes," by Geo. W. Orton; "Sport in Jamaica," by L. C. Shirley; "Tarpon Fishing," by O. P. Hay; "Ice Yachting," by H. P. Ashley, and "Ice Hockey," by J. P. Paret.

An Indianapolis paper states that an investigation in that city has shown that the prevailing epidemic of diphtheria among school children has been spread through the distribution of pencils and penholders in the schools. Under the system in vogue each child is required to take its pencils and pens to the teacher's desk in the afternoon. They are placed in a box together, and next morning are redistributed. Each child may thus have a different pencil and penholder every day, and as children often hold them in their mouths, the...... disease is thus communicated......—*Public Opinion.*

The Living Age in 1898 enters with renewed interest and vitality, its fifty-fifth year. Early numbers of the magazine will contain among other thoughtful and important papers, one on "Modern Education," by J. P. Mahaffy; M. Ferdinand Brunetiere's "Impressions of America," translated for *The Living Age* from the *Revue des Deux Mondes*; "Some Reminiscences of Thomas Henry Huxley," by Prof. St. George Mivart; "The Dual and the Triple Alliance and Great Britain," by Francis de Pressense; and the "Evolution of the Idea of God," by Andrew Lang; and from to week to week will appear articles by the world's foremost thinkers, investigators and authors. The beginning of a volume is an excellent time for the beginning of a subscription.

The *Overland Monthly* for December, the Christmas number, appears in colored cover. Within the covers we note: "Sea Fishing in California Waters;" "Northern California Gold Fields;" "Stampedes on the Klondike;" and more of the characteristic California stories that make one await a new *Overland* with interest. The half-tones are numerous and excellent.

The *Midland Monthly* for December contains another paper in the Grant's life series, a handsomely illustrated paper on "The Yukon Gold Fields—Their Output and their Promise," a number of charming stories and "Kentucky in Recent Literature."

One of the brightest of Chicago publications is *American Resorts*, an illustrated monthly whose illustrations for any one month are worth the subscription price for a year. Its pages are an ornament to any library table.

First Freshman—"The assistant in the chemical laboratory is an unaccommodating fellow."

Second Freshman—"What's he done now?"

First Freshman—"He wouldn't give me any hydraulic acid."—Adapted from The *Sequoia*.

A young doctor has been suspended from Bellevue Hospital, New York, for kissing "one of the youngest and prettiest of the nurses", and of course ever since the recipient of his osculatory favor was so described, it has been impossible to find a nurse who will deny that she was the one kissed.—Chicago *Post*.

Dr. Nicholas Senn's interesting papers on "Military Surgery in Greece and Turkey," which appeared in the *Journal of the American Medical Association* a few months ago, are now issued in pamphlet form with the original illustrations. There has also been reprinted in similar shape, the famous paper by Dr. Senn, on "Classification and Surgical Treatment of Acute Peritonitis," which he read by invitation at the general session of the International Medical Congress, at Moscow, Aug. 20, 1897. Those who failed to see these papers on their original publication will be glad to know that they can now be had in this convenient form.—*K. C. Med. Index*, November.

"Neurotic Atrophy of Bone," by Arthur E. Price, '97, which was awarded the J. W. Freer Medal for 1897 appeared in the *Journal of The American Medical Association* of November 20.

Alumni Department.

JAMES B. HERRICK, A. B., M. D., EDITOR.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to THE CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Chicago.

Dr. A. H. M. Leish, '94, has accepted an interneship in the Milwaukee Emergency Hospital.

DEATH OF DR. FLYNN.—Dr. W. D. Flynn of Redwood Falls Minn., died November 23. Dr. Flynn was born at Columbus, Wis., in 1841. When the Civil War began he enlisted in the defense of his country and was discharged in 1865. Immediately after graduation from Rush Medical College he came to Redwood Falls, i. e., in the fall of 1870. For years Dr. Flynn was a member of the State Medical Board of Examiners and was last year president of the State Medical Society. He was always interested in the development of the town, but would never accept public office. He died from cancer of the stomach. The following letter was handed us by Prof. Hamilton, Editor of the *Journal of the American Medical Association.*

MANITO, ILL., Dec. 6, 1897.

Dear Doctor:—I notice in the *Journal* of December 4, the death notice of William D. Flynn, M. D. The Doctor was a graduate of "Grand Old Rush," 1868, one of the boys who occupied a front seat during Prof. Reas's lecture hour. That means he was there to learn. William Flynn was a roommate of mine. Last May I wrote him to meet me in the upper lecture room of Rush, commencement week, and enjoy the greatest surgical clinic in the world.

Very truly yours,

DEATH OF DR. QUINLAN.—Charles Harvey Quinlan, M. D., D. D. S., Evanston, Ill., died December 6, aged 76 years. Dr. Quinlan had been a resident of Chicago and its suburbs since 1846. He came from Albany, N. Y., where he was born Feb. 19, 1821. Immediately after his graduation from a dental school at Buffalo he opened an office in Chicago. He at once became one of the most prominent men of his profession in the city. The introduction here of sulphuric ether as an anesthetic brought him fame. It was in the fall of 1846, when the method of application was discovered in Boston and full instructions for its manufacture and use were sent to Dr. Quinlan by his uncle, Dr. Harvey of Buffalo. Ether was then known as a letheon, and Chicago is the first city west of the Alleghanies where it was given a practical test. This test was given in a public clinic at Rush Medical College, where an amputation was to be performed. Dr. Quinlan was asked to be present and administer the anesthetic. Wide publicity was given the test, and the result was entirely satisfactory. The newspapers of the country teemed with accounts of the experiment and Dr. Quinlan was given great praise. Shortly after this, chloroform was discovered, and the formula was immediately procured by Dr. Quinlan. He was the first to distill this anesthetic in Chicago. Dr. Quinlan took the degree of M. D. from Rush Medical College in 1865, and practiced in Lake Forest until his removal to Evanston in 1875. Since then he has lived a quiet life at his residence, 1619 Chicago Avenue. He built the Avenue House, Evanston's fashionable hotel, in 1882. He was one of the founders of Lake Forest University, being one of four men to give $1,000 each to start that school. —*Jour. Am. Med. Ass'n.*

C. W. HALL, M. D., '87.

CHICAGO, Dec. 7, 1897.

Dear Doctor:—Dr. Quinlan was one of the most loyal sons of old Rush, a graduate of 1865. He always evinced the liveliest interest in the Alumni Association and not a year passed that he did not send me a check for $5 to be used in furthering its interests, at the same time giving expression to his fealty to his Alma Mater.

Yours, J. F. RHODES, M. D.

The following letter from "Charlie" Hall of '87 will be read with interest by all members of his class, as well as by others who were in college during that year. We trust some member of the other classes, whom he indirectly slanders by so positively asserting the pre-eminence of '87, will accept the challenge and break a lance with Dr. Hall, so that we may have no doubt left as to which class is the very best class that has ever been turned out of Rush. The columns of the Alumni Department are open to communications from any one desiring to reply to our genial friend. We do not intend to permit politics in this department, and held the editorial blue pencil ready to cross out the political reference in Dr. Hall's letter, but concluded to let it pass because it is a first offence, and because the general statements made by the Doctor apply as well to one political machine as to another.

KEEWANEE, ILL., Dec. 6, 1897.

Dear Doctor:—I have been in the prodromal stage of writing a letter to your department for two years and to-day the initial chill seized me and the first real prominent symptom of my intention is before you. I believe reading the last issue of the CORPUSCLE hastened the trouble, for in it I read of two '87 boys and immediately recollections flashed through my mind producing, via the upper and lower neurons, a contraction of the profundis digitorum and flexor longus pollicis of the right hand and in between my thumb and finger I find my pen. How else can you account for this action?

The first thing I am supposed to speak about is the superiority of my class and if any of the CORPUSCLE readers doubt my claim when I am through they can use the same kind of ammunition, and in the end we will perhaps add some interest to our organ (official organ I mean) if we do not prove anything.

First Claim:—In going about the State trying in my feeble way to carry out the work of one of the committees of our State Medical Society, I find all the '87 boys are located and practicing medicine in the place they first started in, while I find boys of other classes drifting about, looking for locations. The only possible reason for this, besides the one I started with, is that in the year '87 there happened to be an unusual number of soft berths for us to fall into. Again, in all my visits to Chicago I always fail to find '87 boys standing around, hoping by some kind streak of fortune they might get the job of sponging blood that other brains have caused to flow. This gives me a great deal of satisfaction. This sponging is all right for students and for some M. D.'s but not for the '87 variety.

Second Claim:—The '87 class is the only class that has a clear record in athletics. I can not but entertain the idea that if our beloved Gould had been able to keep the '87 boys there to win victories for Rush he might be with us to-day. How proud he was as he went with us and how exhilerated he got, for he always knew he would return with a victorious team, and that meant a happy disposition and a good appetite, the sure foundation of good health. The gloom and melancholy which must have settled on a mind like Gould's (and there are others), on account of Rush's numerous defeats in recent years, was enough to lower vitalities even stronger than his, and with lowered vitalities are opened the avenues which often lead to the grave. It's a wonder we are not all dead. The only way I keep my spirits up is by reading the sporting page of our dailies.

Perhaps the one great reason for our success in sports in '85, '86 and '87, is because we were dieted to perfection. We never got overfed. No trainer weighed out our food, but others did. We always began with pie so as to be sure we would get it and we finished on potatoes. We believed in putting the heaviest in first so that it would not turn over. You never heard an '87 boy belch and this was the reason. Most of the sports boarded with Mrs. Pinkum for reasons given above. She used to move in a circle around the neighborhood, the College being the pivot. All the boys will remember her on account of her daughter. A smile from her (the daughter) satisfied us as much as a meal. I would like to mention a few of the "us's" but we are all married now and our wives all think they are our first and last loves and 'twould be cruel to change their faith.

The article on page 110 of the last CORPUSCLE makes an '87 boy laugh. Why, in '87 a man who would pen such an article as that would be "perched" three times a day. We had one gentleman in the class of '87 and he attended lectures one week. He got lonesome. He told us the last day he was there we were a lot of hoodlums but we didn't mind that. The '87 boys will remember him. He persisted, against our code of morals, in wearing a silk hat, and when he bade us his affectionate adieu he supplemented his remarks by a write up in the *Tribune.* We all read the *Tribune* that day. What would you think, boys, if I were to tell you that in '87 days, with the desperate Jesse James Fuller on one side and the stalwart Chas. B. Read on the other, we would divide into rushes, and after we had caught our wind, over fifty seats would be torn up and splintered, and when the sainted "Adolphus" would come in to clear up he would swear in seven different languages. To my dying day I shall vividly carry the recollection of our "overshoe fight" when the only thing that saved the bust of Brainard and the paintings of Freer and Blaney was that the overshoes all got out of the large window on the perch and stopped the traffic on Harrison sireet.

None of us have ever gone to the penitentiary yet. The only difference perceptible to us is, then the Rush stock paid 25 per cent, now it pays 33 per cent. We can saw off a leg or "pull it" just as well as those who, when they have reached "their junior year, forget they are boys."

Another claim to our superiority is that '87 boys are all too busy to attend the reunion of the alumni. We haven't been able to get a corporal's guard together since graduation, but I suppose Providence knows what He is about. It might spoil the banquet; and our only show is to use the columns of the CORPUSCLE.

I have purposely refrained from personalities in this introductory letter, but I am liable later on to tell "most anything" for that's what happened in '87. Now I am going to get serious. I hope and pray that no graduate of '87 is so fossilized and so "un '87" that he has failed to unite himself to some medical society. Now that you all have emblazoned your name high in your locality, join your brethren in professional work and let the rest of us who do not live in your neighborhood, get some benefit. This is your duty not only to yourself but to us also. The State Society is making great effort this year to get every regular physician in Illinois into a medical society. Any one who is conversant with the trend of politics in these latter years can see the necessity of this movement. If our state institutions are to be saved from the spoils monster we must get into politics and that to stay. The medical profession must save the unfortunates from "political treatment." Even saloon keepers have more influence politically than physicians in Illinois. This should not be, and if persistent work will bring the doctors to look at this question aright, the time is not far distant when every regular physician in our State will be a member of a society; then, and then only, shall we be able to present a solid front to the common enemy. Let Rush graduates be in the front, for our cause is humanity's cause, but votes are the only things that count or amount to much as weapons. Yours for "Rush,"

PUBLISHERS' NOTES

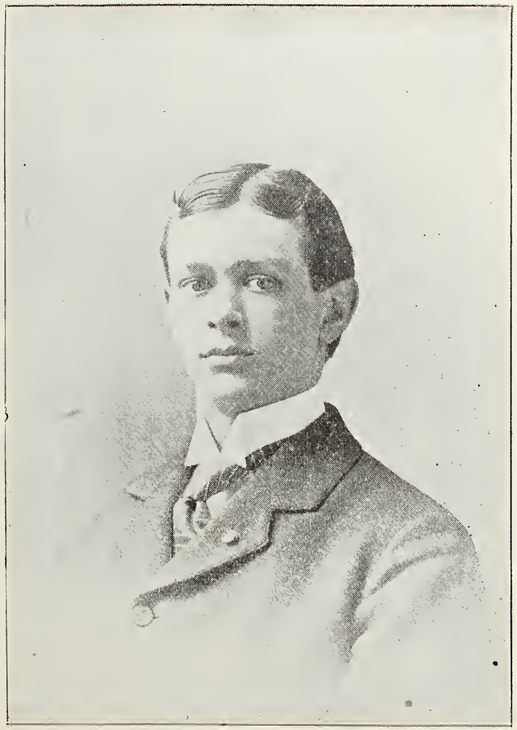
The *Journal of the American Medical Association* for Oct. 9, 1897' contained an article by Gustavus M. Bech, A. M., M. D., of Detroit, entitled, "Hot Air for the Treatment of Subacute Rheumatism." He reported a number of cases which he had successfully treated with the hot air apparatus manufactured by Frank S. Betz & Co., Chicago: He says: "In every one of the instances complete relief from all symptoms was experienced, and now within two months no recurrence. No massage was practiced after the baths save that I anointed the hands or legs with a little vaselin.

December 6, 1897.

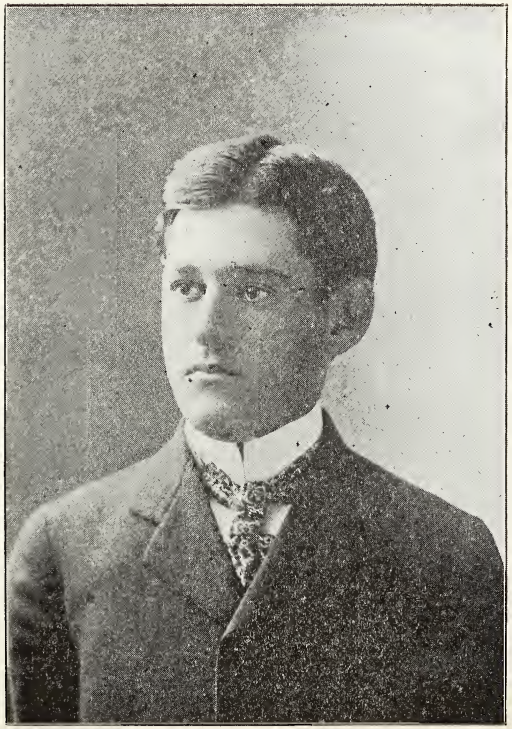
John Carle & Sons, New York City. Gentlemen:—You can be assured that I will prescribe the Imperial Granum, whenever there is an indication for a prepared food, because I had sufficient confidence in it to give it to my own child, and it agreed with him perfectly, and he has increased in size and weight to an astonishing degree. ——— M. D.

Phycians can obtain samples of this celebrated prepared food free, charges prepaid, on application.

The January, 1894, number of *The Quarterly Journal of Inebriety.* Hartford, Conn., says: "Antikamnia is one of the best remedies in influenza, and in many instances is very valuable as a mild narcotic in neuralgias from alcohol and opium excesses. We have used it with best results." *The Edinburgh Medical Journal* says: "In doses of three to ten grains, it appears to act as a speedy and effective antipyretic and analgesic." *The Medical Annual*, London, says: "Our attention was first called to this analgesic by an American physician. We have since used it repeatedly for the purpose of removing pain, with most satisfactory results. The average dose is only five grains, which may be repeated without fear of unpleasant symptoms."



A. F. STEVENSON, Jr., A. B.



F. E. PIERCE, B. S.

The Corpuscle.

Rush Medical College, Chicago, Ill.

Medical Department, Lake Forest University.

Vol. VII. FEBRUARY, 1897. No. 5.

LECTURES ON GENERAL PATHOLOGY.

BY PROF. KLEBS.

(Continued from December.)

CHAPTER II.

RELATION BETWEEN THE HUMAN ORGANISM AND PARASITES IN DISEASE.

Disease, as shown in the first chapter, is a progressive action, originated by the battle between the invading and the invaded organism.

1. We have to study now the possible relations between two different organisms living one with another.

2. The first one is named with the Greek expression of "symbiosis," or cohabitation and shall express every sort of friendly, helpful cohabitation. In natural history we find many of these forms, as the symbiosis of algues and mucors, forming the lichens, as shown by DeBary. In higher organisms we find the same thing, the cohabitation of actinia (see star) with the hermit crab. The latter, living in a shell, is not in shape to feed itself without the help of actinia. A third example is the cohabitation of actinia with yellow bodies, shown by Oscar Hertwig to be algue cells. In this case the decomposition of CO_2 effected by the chromatic bodies seems to supply the needed oxygen for the actinia.

3. It is questionable whether this form of symbiosis is to be found in higher animals. Pasteur had the idea that the bacteria always present in the intestines of grown up animals, might have some helpful effect in the digestive process, but Thierfelder has shown that new-born animals fed on substances free from bacteria can grow. It is not demonstrated by

these very interesting and difficult experiments that elder animals can exist without intestinal bacteria. I have found that the destruction of bacteria in the intestinal canal of such is not without danger. I observed that many of the animals died by intestinal intussusception.

4. In true parasitism, which is always a pathologic state, there is one permanent feature, that is the adaptation of the parasitic organism to the life in the body of the host. We see these transformations of the invading organisms as well in the highest forms of parasites as in the lowest, and we can name a pathologic state, for example, the forms of every parasitic worm taking off their ability to conduct a free life. Sometimes free life is possible in a certain state of development, mostly in the larval, whereas the fully developed state, adapted for generation purposes, is confined to the parasitic state.

5. This advance in biology of parasitism gives a very valuable distinction between endogenous and exogenous parasites. The first are organisms wholly adapted, the second those partially adapted to parasitic life. We find the same difference in the higher organized parasites, the worms, as well as in the simplest forms of parasites, as in tubercle and lepra bacilli.

6. In the bodies of higher organized beings, probably only in higher animals, exists a very curious form of parasitism, that we will name parasitism of cells. This form is only possible in animals forming an aggregation of different elementary organisms (cells.) So in man and the higher animals tumor metastasis may be called parasitic growth, an idea first expressed by the old pathologist I. F. Meckel, but he thought of foreign, exogenous parasites.

7. Regarding here only the simplest forms of parasites, the cause of all infectious diseases, we will have found by and by the startling fact that every form of micro-organism can become adapted to parasitic life. These different forms are:

a. The bacteria or schizomyzets (bacteria, Spaltpilze), forming small round or oval corpuscles, the cocci; or rod-like organisms, the bacilli; or curved and movable forms, the vibrions.

b. The *algues*, a much higher class of plants, consisting of fine threads, oftentime branching, and fixed sometimes on one end, if developing in the exterior nature, gives more forms of parasitic organisms, as is shown before. A few years ago we knew only from this class the leptothrix of the cavity of the mouth in a parasitic states. We now know the actinomyces and some streptothrix forms as the cause of grave general diseases. Probably also the sarcina forms are to be reckoned in this group.

One of the features of many free living algues, the formation of amylum and colored matter, is mostly destroyed in the parasitic forms. In one case I found, in a kidney, greenish colored bodies, and the leptothrix regularly contain amylum.

c. The *hyphomycets* show farther development of rods, divided in many elongated cells, forming in the substance in which they grow a sort of net work, roots, than hyphi erected in the air and forming in the ends various generation apparatus. It is shown by *Lichtheim* that also these higher developed plants, seemingly adapted only for life in the atmosphere, can grow under certain conditions in the interior of the organs of higher animals. The same is the case with the yeasts, the *blastomycets*, which seem to form a branch or a subdivision of the hypomycets, forming round or oval-shaped cells, loosely connected in chains.

The other and following forms can be regarded as animals constituted of movable protoplasm, whereas the movable forms of plants only show flagellæ as cause of their movement.

d. Protists, the simplest forms in the animal line, consisting of movable cells with nuclei, containing the parasitic genera of coccidia and amœbæ.

e. The highest forms of parasites are contained in the class of worms and arachnidæ (acarinæ.)

f. We can speak also of the parasitism of cells, composed of different sorts of such. The metastatic tumors, in which certain cells grow in a different part of the body, can be considered from this point of view.

8. The method of invasion of the parasitic organism is dependant upon the soil in which they are grown and their biologic faculties.

9. Air, water and earth are the three natural soils in which these organisms can develop or be conveyed to the higher organisms invaded by them. The fourth form of transportation is given by the food, and the fifth by living animals inflicting wounds (food and wound infection.)

10. In former times the *air* was held as about the only mode of conveyance of infectious diseases. Now it seems to be cer-

tain that this is the case only under certain conditions and relatively seldom.

Of all diseases, the malaria germs only seem to be transported over greater distances. This is the experience of Italian writers, and the observations of the Swedish investigator Bergman tends to show, by statistical investigations that the graver malarial affections in Sweden always follow one or two years later than the Brazilian epidemics. That this is not impossible is shown by the red clouds observed in the last years after eruptions of the volcanoes of Java, and by the experience of Ehrenberg on the passat dust, but it is not really shown that malarial germs are transported in this manner.

11. The facility of transportation of dust depends in a very high degree upon the dry or wet state of it. Dry germs seem to have a very high specific gravity and cannot be transported very far or only by air streams of a very high velocity. It may be that the grave pneumonic affections observed in the higher situated valleys of Switzerland (alpine stitch—Alpenstich) may be transported by storms surmounting the Alps, (Scirocco, Fœhn.) Dry dust plays a greater part in closed rooms. mostly in cocci infections (pneumonia, cerebro-spinal meningitis, erysipelas and wound-infection),

12. That very finely distributed dust-infections in diphtheria from clothes and hairs atomized watery particles can be conveyed also by slow air streams, is shown in the last time by Fluegge (Breslau.) This is a fact of great value for the tuberculous infection, contrary to the elder opinion of Cornet, that dried and pulverized sputum forms the medium of infection. Such fine particles of watery fluids can more readily become suspended in the air than dry praticles, as is shown by the formation of clouds. Atmospheric electricity may here play a role.

13. *Earth* or *soil* is taxed as playing a great role in the conveyance of epidemics, by Buhl and Pettenkofer, Munich, who observed that the frequency of typhoid fever was increased by rapid sinking of the ground water; but as it is shown by Robert Koch that only in the uppermost layers of the soil bacteria can be existing, and by extensive observation of the disinfectic power of earth on the sewage farms of greater towns, as Paris and Berlin, we cannot longer accept this declaration. The higher frequency of typhoid fever in a deep state of ground water depends upon the increased drainage of surface water into the wells and infection of the wells. Ground water,

not infected in this manner, is shown to be absolutely free from bacteria by Karl Frænkel and others.

14. The *water* must now be regarded as the most general propagator of infectious diseases. Innumerable such cases are demonstrated in typhoid fever and cholera. Epidemics of typhoid fever in Zurich are particularly memorable, also the cholera epidemic in Genoa and Hamburg, in 1884 and 1892. The English experiences in this direction were older, and the bettered conditions of water supply improved in a very high degree, first the sanitary state of English towns, and then of the towns on the Continent. Combination of drainage and sewerage, with a water supply from high mountains or ground water, or water of streams and lakes purified by filtration, has given to the great towns a better sanitary condition than is found in country places and villages. The yearly mortality is going down through these hygienic improvements regularly in such places from 20 to 40 per thousand to 10 to 15 per thousand, one of the greatest acquirements of modern hygienic civilization.

15. The *food* conveys disease germs in a very different manner,

a. by washing vegetables with infected water,

b. by transporting the germs from the manure used in the fields, eggs of ascaris, also bacteria, sticking to leaves of salad or other vegetables eaten in a raw state,

c. By animal food, from sick animals or infected after the death of the animals. From the first may be named the tuberculous infection by cow's milk and meat; from the last the botulismus (meat poisoning) shown by Van Ermengem as effected by an anærobic bacillus producing a very intense toxin, as demonstrated lastly by Brieger.

16. Living animals can convey infectious diseases by bites, as by mad dogs or snake poisoning. Probably this manner of infection is developed to a greater extent than is generally suspected. Exanthematic typhus and bubonic pest are undoubtedly conveyed by fleas and other biting insects. Flies take up the germs of tuberculosis from the expectorations of the sick people, gad flies the anthrax bacilli from dead bodies. Probably also the same manner of conveyance will be shown in yellow fever, which disappears immediately after the temperature of the air has gone down to 60 or 50 degrees, destroying the mosquitoes. A Spanish physician seems to have made this experiment upon himself in Central America. More particulars are not known, but this experiment must be repeated by mosquitoes taken in infected regions and transported to parts where yellow fever does not exist.

PROF. COTTON'S PEDIATRIC CLINIC.

Reported by Dr. I. Lange, Chief Assistant.

I present to you today a group of cases suffering from the same malady, each varying in duration, severity and prognosis. All are choreic, a condition met with as frequently in our department as eczema among diseases of the skin.

May C, aged 7½ years, had intestinal trouble at 2½ and at 3 years; during both attacks she had convulsions. Last October she had what from description would appear to be rheumatism. At the same time choreic movements and pains appeared and disappeared simultaneously. The chorea interferes with speech, she sleeps well, appears fairly well nourished and developed, with no change in chest. Heart is normal, bowels and appetite unaffected.

Charles V., aged 10 years, complains of pain in legs since four to five months ago. His right arm seems weaker and he drops things. He is losing flesh and getting weaker in general and while he attends school he is unable to write without extraordinary effort. His locomotion also appears impaired. He presents profound anemia and a rapid heart's action, with a marked systolic murmur at the apex transmitted to the side.

Josephine S., is nine years old and had an attack of chorea in May 1897. She was treated at the clinic and subsequently discharged as cured. She went to school last fall, feeling well until three weeks ago, when she was pushed down stairs, a renewal of symptoms appearing. Inspection shows prominent precordia with increased area of apex motion and an organic murmur at the apex, also a functional, hemic, murmur at base, general muscular restlessness and twitching when standing. Under ordinary circumstances these little irregular movements of fingers would be considered restlessness, but in connection with other symptoms we can be pretty sure of the choreic nature.

Ida B., eleven years of age, will be remembered by some of you as one a little out of the usual order. She could not phonate and finally recovered. All these cases show a rapid pulse. All show symptoms aside from the inco ordination common to all. Most all have a rheumatic history showing the intimate clinical relation between chorea and rheumatism. Chorea seems an associate of rheumatism and may either precede or follow, or often actually complicate a rheumatic attack. The symptoms of rheumatism are often less marked in children than in adults and rheumatic attacks may be easily overlooked or may not be recognized and, therefore, statistics with regard to the association of chorea and rheumatism vary considerably. Not infrequently we see a sister suffering from chorea and a brother from rheumatism or attacks of chorea and rheumatism alternating in the same individual.

The third case presents a paresis of one arm, it consists in weakness rather than paralysis and not infrequently precedes the other symptoms of chorea.

Two cases present marked heart lesions indicating preexisting endocardial inflammation. We find, in this clinic, that in the majority of cases of chorea the heart is in some way or other affected, this complication usually coming on during the course of a severe attack of chorea. We find irregularities, reduplications, bruits—the latter when present at the base are usually hemic. But failing to detect bruits in a fresh case of chorea does not exclude the probability of the appearance of undoubted organic murmurs subsequently. Chorea is a chronic disease lasting several weeks or months, varying in severity during this period. Relapses are exceedingly common with a tendency to pass off after puberty.

The seat of the disease has been placed in the spinal cord, basal ganglia and cortex. The motor region of the cortex seems responsible, for the inhibitory influence of the frontal regions is in abeyance. Impaired nutrition of these nerve-centers from sudden fright or an irritation at some distant part—indigestion—may start these irregular discharges—spasmodic movements—from the cortex, which it may soon be beyond the power of the will to control. The mental hebetude, dullness and emotional disturbances so often present, also the paresis, leads me to believe that the functions of the cortex are impaired.

Rest is the most important element in the treatment of chorea, complete absence of excitement, encouraging the control of movements as much as possible by an effort of the will.

Here we have another group of cases, brought in to illustrate conditions you may meet with in connection with your obstetric work. I will try and make this first baby cry to detect any abnormality about the face. You will notice the mouth draw to the right. Even in repose it appears that the facial muscles on one side are partially paralyzed. Labor lasted eighty-five hours and we are told that the accoucheur had to readjust his forceps during rotation. We can still detect faint forcep marks in front of the left ear, and it is fair to assume that pressure of the forceps blades at this point, injuring the facial nerve during extraction caused this paralysis, which is the most common form, as a rule temporary, disappearing in a few days or weeks. Pressure of the promontory of sacrum before delivery is another cause. The other less common form is due to an injury to the brachial plexus, produced by the pressure of the finger hooked in the axilla in order to extract the arm and shoulder, or wrenching from dragging the infant through the pelvis. The prognosis in paralysis of the arm from a lesion of the brachial plexus is more serious, but it will necessarily vary according to the amount of injury done and the degree of paralysis present. The treatment of the more serious paralysis should be supporting the arm by fixation to the side, remembering that the circulation being sluggish, it is easily obstructed by tight bandaging. At the end of several weeks, after absorption of the effused blood has presumably taken place, movements of the arm may be begun, with a view to call forth the voluntary efforts of the child.

Our next babe is thirteen days old and weighed on the first two days six pounds, losing till the ninth day, when it weighed four pounds and eight ounces. It received the mother's breast, whose nipples were retracted. The stools were green, changing to yellow when a wet-nurse was provided. Milk analysis on the sixth and tenth days showed: Proteids 4 per cent.; Fats 6 per cent: Proteids 1.4 per cent.; Fats 2 per cent. The latter analysis shows that the baby was not getting proper nourishment. Its face gives unmistakable signs of malnutrition. He appears to be an old man in his second childhood. Without the milk analysis we would be inclined to attribute this condition of malnutrition to the retracted nipples, the condition of which plays an important part in the nursing of weak babes. While strong babes manage to draw the adjacent skin into their mouth, weak ones are usually not able to suckle from a retracted nipple. The best nipples protrude 1 to 2 cm. and are easily drawn out of this bed. It is essential that the nipple should be in an otherwise healthy condition and free from hypersensitiveness, cracks fissures and eczemas.

Here are two babies suffering from icterus neonatorum, seven and three days old respectively. The latter showed in addition, at birth, puffiness of eyelids with a purulent secretion; also stained conjunctivæ. Were this ophthalmic neonatorum from infection through gonococi, these manifestations would be absent at birth, but appear several hours or days afterwards. The condition is evidently œdema due to pressure. Boric acid fomentations ameliorated these symptoms, so that sensitiveness to light only remains. As to the icterus you will hear more in my lectures. Suffice it to say that infants often suffer more or less from jaundice, which makes its appearance when a day or two old, the pink hue fading away soon after birth. It is often overlooked on account of the slightness of the yellow coloration of the skin and the frequent absence of discoloration of the sclerotics. Contrary to adult jaundice where the sclerotics are affected before the skin is tinged, the yellowness is first noticed on the face, around the mouth and chest, then on the abdomen; later on the limbs.

RESUME IN THE FORM OF OUTLINES OF PROF. HEKTOEN'S LECTURES ON GENERAL PATHOLOGY, FOR THE GUIDANCE OF BEGINNERS.

(Continued from page 152.)

3. THE INFILTRATIONS.

Significance of the term infiltration.

1. GLYCOGEN INFILTRATION—Glycogen, its chemical nature.
   The methods of demonstrating its presence in tissue, its normal occurrence; pathological infiltration: In certain tumors, in diabetes mellitus and in experimental diabetes.
2. FATTY INFILTRATION (ADIPOSITAS, LIPOMATOSIS)—The storage of fat under normal conditions, its origin, its fate.
   Causes that lead to morbid infiltration: Excessive production, diminished consumption, anomalous metabolism (acquired and hereditary).
   Observed in—General obesity, circumscribed lipomatosis about atrophic organs and in multiple, symmetric fat overgrowths.
   Functional disturbances of: As observed in the liver, the heart, and on account of excessive general obesity.
   The histology of the process, the differentration from fatty degeneration, resorption (serous atrophy of fat tissue).
3. THE PETRIFYING INFILTRATIONS AND THE FORMATION OF CALCULI.
   a. Calcification—The salts concerned; physiological in bone production; metastatic in cartilages, arteries and elsewhere in old age; into degenerating, dying and dead tissue and material; in arterio-sclerosis, hyaline degeneration, chronic endocarditis and other chronic inflammatory proliferations, necrotic cells and material, exudates, dead animal parasites, thrombi, defunct fœtuses.
      The chemistry of calcification.
      Results—hard white areas, compact concretions.
      Histology and histo-chemistry.

b. Incrustration of various tissues with urates in gout.

c. Calculi—Where found, the matrix and its varying nature, the incrustating materials, the general causes of calculi.

  1. Biliary calculi—general causes, varieties, number.
  2. Urinary calculi—general causes, varieties, where found.
  3. Fœcal.
  4. Salivary.
  5. Pancreatic.

4. ABNORMAL PIGMENTATION. Nature, origin and locations of native pigment.

  1. Native pigmentation: Freckles, pregnancy, Addison's disease, pigmented or melanotic tumors, pigments of fats.

  2. Hematogenous pigmentation:

    a. From extravasated blood, thrombosis; the changes in red cells and in the hemoglobin; iron free (hematoidin) and iron containing (hemosideerin) pigments and their appearances and fate, the conditions under which each is produced; the pigment carriers and the pigment depots.

    b. From circulating blood in infections and intoxications; hemoglobinemia, hemoglobinuria; the effect on the secretion of bile; pigmentation of internal organs.
    (Pseudomelanosis).

  3. Biliary pigmentation. Biliary pigments produced by liver cells only from material in the blood. Minkowsky and Naunyn's experiments. Jaundice is due:

    a. To biliary obstruction and absorption of biliary pigments into general circulation; the causes of of obstruction; the appearance of the organs; the action of biliary acids.

    b. Jaundice is also due to destruction of red cells in circulating blood and resultihg excessive bile production from superabundant material with direct reabsorption of bile—hepato-hematogenous jaundice.

  4. Imported pigment:

- a. Through and in skin as in tatooing and silver workers.
- b. Through alimentary tract as after prolonged use of silver.
- c. Through inhalation as with coal dust (anthracisis), iron dust (siderosis), and silicious material (chalecosis); appearances of lungs and peribronchial lymph glands as well as of other organs.

5. Cysts. Secondary formations of varying etiology. Cysts are pathological cavities provided with a membrane enclosing fluid or semifluid contents. Distinction from cystoma. Cysts are not primarily due to tissue proliferation.
    1. Retention cysts. Accumulation of secretion in glands and ducts, pre-existing canals and cavities; epithelial or endothelial lining; essential cause: obstruction to outflow or failure of removal of secretion or fluid; the causes of obstruction. Examples of retention cysts in ducts, in glands, with and without ducts, in lymph vessels and spaces.
    2. Cysts from softening—encapsulation of liquified clot or softened tissue in connective tissue; necrosis and degeneration in tumors.
    3. Tubulo-cysts. Dilatations of functionless ducts and tubules that are remnants of embryonal structures; parovarian, vaginal, bronchial, thyreoglossal, vitelline. Contents of cysts depend on tissues where found—Cholesterine, colloid, serum, urine, milk, sebum, mucous, tissue remnants, blood cells, pigment; secondary changes and hemorrhage.

III. INFLAMMATION.

The study of the reactions of the organism to injury.

1. Introduction.

The significance of the word inflammation cannot be compressed into a dogmatic definition. It is a complex, local process, including retrogressive, circulatory and progressive changes, associated in varying degrees and initiated by a variety of causes that act as injuries. The same general principles underlie these changes throughout the animal kingdom and, for the present, inflammation may be looked on as the sum of the salutary, reactive phenomena that occur in the tissues in response to injury.

2. EXPERIMENTAL INFLAMMATION.—The Reaction to Injury in Animals. (Metschnikoff.)

   a. Unicellular organisms rid themselves of foreign particles by forming digestive vacuoles and by extrusion. Loss of substance is reproduced if nucleus persists.

   b. In simple multicellular organisms small bodies may be digested by mesodermal cells (phagocytosis); plasmodial masses may form around larger particles by fusion of mesodermal wandering cells. The power of regeneration is marked.

   c. In the lower metazoa leucocytes collect around injuries and act as phagocytes or excrete granules; fixed cells may also act as phagocytes and reproduce lost elements. These changes may occur without intervention of the nervous or vascular systems.

   d. The higher animals. The simplest conditions are furnished by the non-vascular tissues. Results of injection of a few grains of carmine into tail-fin of axyolotl and newt—chemiotaxis, phagocytosis, regeneration.

The cornea: Structure of the cornea; results of minimum degrees of cauterization: leucocytic accumulation, regeneration. Results of injection of staphylococcus pyogenes aurus: necrosis of cells, filling of lymph-spaces with leucocytes which migrated from congested capillaries at margin, struggle between leucocytes and cocci, further destruction, ultimate arrest and repair.

Vascular tissues: 1. The healing of uncomplicated, incised wounds.

2. Direct study of changes in mesentery and other transparent structures when injured as begun by Cohnheim, 1867.

Technical details.

The normal blood stream.

The vascular changes of inflammation: 1. Active hyperemia; 2. dilatation of veins and capillaries; 3. slowing of the current; 4. changes in arrangement of corpuscles in the stream and peripheral disposition of the leucocytes; 5. leucocytic emigration; 6. passage of red corpuscles; 7. exudation of serum.

The changes in the fixed tissues.

Subsequent events.

RESUME:—Mobile cells play prominent part in changes after injuries in all animals. In vascular tissues changes in blood-vessels favor leucocytic emigration. Proliferation of fixed cells and repair.

3. THE FACTORS IN THE INFLAMMATORY PROCESS.
   1. The vessels. Cohnheim places primary change in inflammation in the vessels; this conception much modified by recent developments; vessels are abnormally permeable in inflamed areas as shown by composition of exudate; the alterations are not always morphologically demonstrable but cement substance is often changed (Arnold); are the alterations always passive, due to injurious action of harmful agents or are they active due to contractions of the endothelial cells? Leucocytes may traverse normal walls. Endothelial cells may act as phagocytes; they may proliferate and by budding give rise to new capillaries; whether the secretory power of the endothelial cells claimed for them by Heidenhain influences composition of inflammatory exudate is not known.
   2. The Influences of the Nervous System. Ancient vasoparalytic and spastic theories of inflammation. Inflammation may proceed in fairly typical manner without central nervous influences; the nature of the local regulatory mechanism is not known; ordinarily the nervous system directly influences the process as shown by Samuel's experiments—the uncontrolled action of the vaso-constrictors interferes with hyperemia and exudation, the inflammation lasts long, mutilation results (rabbit's ear); under the action of the vasodilators alone the stages are hastened, recovery is more rapid.
   3. The Leucocytes in Inflammation.
      a. The leucocytic emigration. Historical notes, Cohnheim, 1867. The causes of the normal arrangement of the cells in the current: heavier in center, lighter at margin of axial current; slowing of current favors peripheral arrangement of cells but does not explain the margination of the leucocytes in inflammation. The changes observed in silvered preparations of the capillaries indicate that migration occurs through cement

substance (stomata), possibly also through bodies of endothelial cells. The movements of the leucocytes outside of the vessels are active—they often form a distinct wall.

b. Chemiotaxis: leucocytes are drawn towards the products and the bacterio-proteins of the majority of pathogenic microbes, towards disintegrating cells, and many chemical substances. Illustrative experiments. Substances such as quinine, chloroform, alcohol, 3% salt solutions may arrest ameboid movement; the influences of substances in solution may vary according to state of concentration and distribution; herein lies reason for variation in leucocytic reaction in inflammations due to same cause. Sensibility to chemical substances is peculiar for each kind of leucocyte. The determining factor of leucocytic wandering is presence of chemiotactic substances in consequence of which the cells advance, as long as ameboid motion is intact, towards the point of greatest attraction.

c. The passage of the red cells follows leucocytic migration, is a passive process, is greatest when damage to vessel is greatest, and is wholly due to altered vessel wall and increased pressure.

CONGENITAL MALFORMATION OF THE LIVER—ABSENCE OF THE LOBUS SPIGELII, RUDIMENTARY QUADRATE AND LEFT LOBES WITH ENLARGEMENT OF THE RIGHT LOBE.

BY P. A. WAKEFIELD.

E. Kaufmann, E. Ziegler, and others, in recent works on pathologic anatomy, state that anomalies of the liver may be congenital or acquired. The congenital malformations are the ones that especially interest us at present.

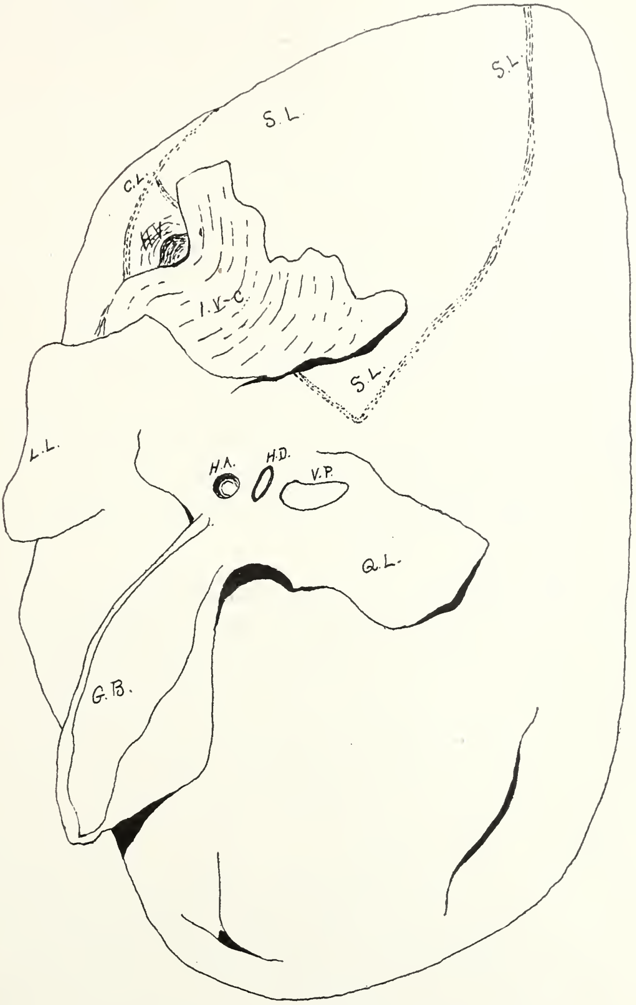
Abnormal lobulation may occur, leading in rare cases to accessory livers. One or the other of the principal lobes may be abnormally small or even completely absent, in which case the other parts hypertrophy. Such malformations are not common, and according to Ziegler, have but little clinical significance.

At a recent post-mortem, at the Cook County Hospital, the following rare instance of congenital anomaly of the liver was found. The liver under consideration was taken from a man, a butcher, 53 years old. The clinical diagnosis was apoplexy.

Extract of post-mortem record.

There was an extensive subdural, meningeal hemorrhage. There were no scars on the abdomen. The liver occupied the right half of the abdominal cavity, displacing the caecum to the median line. There was no liver tissue to the left of the coronary ligament. The organ extended from the ensiform appendix to below the umbilicus in the median line, and across the abdomen to the right iliac fossa. From the clinical history we learn that its lower border was not palpable. It measured 32.5 centimeters from above downward, 22.5 centimeters from left to right and 11 centimeters in thickness. It weighed 2,550 gram.

The chief malformation of this liver consists in the absence or very slight development of the left lobe, which can be recognized as a process of tissue given off from the left border of the right lobe at about the junction of the middle with the upper third. This process of tissue measures about 5 centimeters in length, 3 to 4 centimeters in width, and from fiveeights to 1 centimeter in thickness. It is not separated from the main part of the liver, the longitudinal fissure and broad ligament being absent.



FIGURE,

G. B. Gall bladder cut open longitudinally.
Q. L. Undeveloped quadrate lobe.
H. A. Hepatic artery.
H. D. HePatic artery.
V. P. Portal vein.
L. L. Undeveloped left lobe.
H. V. Hepatic vein.
I. V. C. Inferior vena cava slit open.
C. L. Coronary ligament.
S. L. Triangular fibrous attachment to diaphragm.

The right lobe is enlarged, weighing. as stated above, 2,550 grams. It was suspended from the diaphragm by the coronary ligament on the left, and on the right by a triangular fibrous attachment on the upper part of its posterior surface. These are its only points of attachment.

The anterior surface is convex and smooth. The right border is smooth and somewhat rounded. The lower border is also smooth and rounded and extended, as above stated, from the right iliac fossa to the median line below the umbilicus. The upper border presents, to the left the coronary ligament, and to the right the triangular fibrous attachment to the diaphragm. This border must have been in close contact with the diaphragm. The left border is somewhat irregular. The undeveloped left lobe and the gall-bladder project over this border, which must have been in contact with the intestines below and with the pyloric end of the stomach above. The posterior surface presents much the same appearance as does that of a normal liver, if we except the shape, the absence of the lobus spigelii, and the slight development of the quadrate and left lobes.

Above and to the left is the opening of the hepatic vein into the inferior vena cava which has been slit open longitudinally, (see figure.) The cut ends of the hepatic artery and duct, and the portal vein are to be noticed near the center, a little to the left of it. The transverse fissure is but poorly developed. The gall bladder extends forward, downward, and to the left, and rests in a depression of the liver substance. Two slight inconsequential fissures are to be noted, occurring near the lower border of this surface.

Microscopic sections were made, one from the undeveloped left lobe, and one from the right lobe. The former shows the left lobe to be composed mainly of fibrous tissue, with some areolar tissue, and here and there streaks of liver tissue, the cells of wnich are small and compressed, though otherwise normal; bile ducts are not present. The section from the right lobe shows beginning cirrhosis. There is diffuse round cell infiltration, together with the formation of new vessels, also some increase in the connective tissue and consequent slight atrophy of the liver cells proper. The last three changes are not marked.

From this description, it appears that we have here a malformation of the liver consisting in the absence of the lobus spigelii, the very slight development of the quadrate and left lobes, and a marked enlargement of the right lobe. How much of the enlargement of the right lobe is purely hypertrophic in its nature, and how much is due to the beginning cirrhosis cannot be difinitely stated, but surely some degree of compensatory hypertrophy is present.

That this anomalous configuration is congenital in origin there can be no doubt. Note the absent lobus spigelii, the smoothness of the surface of the left lobe and of the entire liver, the absence of any scar in the abdominal wall and of cicatricial tissue in the liver.

A study of this case brings home the fact that such malformations, though infrequent, might lead to serious mistakes in clinical diagnosis, and that they are therefore worthy of consideration.

McNutt[1] reports a case which impressed on his mind the importance of such very infrequent malformations.

In relation to the diagnosis of abdominal growths. Unlike this case, McNutt's presented two pedunculated masses due to a congenital malformation of the left lobe. The organ was perfectly healthy and the masses consisted of normal liver tissue.

Thompson[2] reports a malformation which he regarded as congenital and which consisted of an accessory lobe of considerable size, connected with the free margin of the right lobe, near the anterior extremity of the longitudinal fissure.

"Variations in form occur occasionally, but they are more rare in the liver than in almost any other organ of the body. I have seen the left lobe so small as to appear but a mere appendage to the right, being connected to it only by a thin and narrow isthmus. Cruveilhier records an instance in which the left lobe was attached to the right merely by a vascular pedicle about a half inch in length, the extremity of the lobe being adherent to the upper part of the spleen."[3]

Among the many congenital anomalies of the liver described in the literature at our command, any case, the exact counterpart of the one here reported, was not met with. It is self-evident that the great enlargement of the right lobe which is largely hypertrophic in its nature, would naturally be interpreted by the clinician as wholly due to some acquired morbid process. Hence it seems to us that in the differential diagnosis of enlargements and growths of the liver, those that may be connected with congenital malformation of the organ certainly deserve consideration.

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[1] Pacific Medical and Surgical Journal, San Francisco, 1886. Vol. XXIX, P. 405-407

[2] Journal of Anatomy and Physiology. London, 1884-5. Vol. XIX, P. 303-306.

[3] Extract from Todd and Bowman's Cyclopedia, Vol. III, P. 163.

QUESTIONS FOR REVIEW IN OPHTHALMOLOGY.

By Cassius D. Wescott, M. D., Chicago.

Instructor in Ophthalmology in Rush Medical College, etc.

1. What is meant by the principle focus of a convex lens? (Diagram).
2. What is meant by the principle focus of a concave lens? (Diagram.)
3. Describe the formation of images by convex lenses.
4. How are lenses numbered?
5. What is a spherical lens?
6. What is a cylindrical lens?
7. Define acuteness of vision?
8. What is meant by the refraction of the eye?
9. What is meant by the accommodation of the eye?
10. What are the chief factors of acommodation?
11. Describe the changes which take place during the act of acommodation.
12. Define emmetropia; ametropia; hypermetropia; myopia and astigmatism.
13. Name all the varieties of astigmatism.
14. Define anisometropia; presbyopia.
15. Draw a single diagram illustrating the refraction of parallel rays of light in the emmetropic, hypermetropic and myopic eye.
16. What are the common symptoms of hypermetropia?
17. What are the common symptoms of myopia?
18. What are the common symptoms of astigmatism?
19. What are the common symptoms of presbyopia?
20. What sort of lenses do we use for the correction of hypermetropia and why?
21. What sort of lenses do we use for the correction of myopia and why?
22. What sort of lenses do we use for the corection of simple hypermetropic astigmatism and why?
23. What sort of lenses do we use for the correction of simple myopic astigmatism and why?
24. What sort of lenses do we use for the correction of compound hyperopic astigmatism and why?

25. What sort of lenses do we use for the correction of compound myopic astigmatism and why?

26. What sort of lenses do we use for the correction of mixed astigmatism and why?

27. What sort of lenses do we use for the correction of presbyopia and why?

28. Describe the ophthalmascope.

29. Describe the direct method of using the ophthalmoscope.

30. Describe the indirect method of using the ophthalmoscope.

31. What are the optical conditions essential to the successful use of the opthalmoscope in the examination of the emmetropic eye by the direct method?

32. How is it possible to estimate the refraction of the eye with the ophthalmoscope?

33. Describe the structures of the upper lid as seen in a vertical section, or draw a a diagram illustrating the same.

34. Describe the cornea, giving its minute anatomy.

35. What are the functions of the iris?

36. How is the crystaline lens supported in its place within the globe?

37. Describe the ciliary body and give its anatomical relations.

38. What are the functions of the choroid?

39. Name all the subjective and objective evidences of paralysis of the motor oculi nerve of one eye.

40. Definition and pathology of hordeolum; blepharitis marginalis; chalazion; blepharospasm; ptosis; symblepharon; trichiasis; distichiasis; entropion and ectropion.

41. Differential diagnosis between acute catarrhal conjunctiyitis, acute plastic iritis and acute congestive glaucoma.

42. What are the causes of purulent conjunctivitis in the new born?

43. What can we do to prevent it?

44. What is the proper treatment for the first stage?

45. Describe in detail the management of a case during the second stage.

46. What are the chief dangers of purulent ophthalmia?

47. What are the possible sequelae of trachoma?

48. Give the pathology and treatment of pterygium.

49. What are the causes, possible consequences and proper treatment of acute suppurative keratitis?

50. What are the causes, duration and results of interstitial keratitis and its proper treatment?

51. What are the causes and objective symptoms of iritis and the general principles of its treatment?

52. Etiology. pathology and treatment of migratory ophthalmitis?

53. Name all the varieties of glaucoma and give the proper treatment for a case of acute congestive glaucoma; also for a case of simple, chronic glaucoma in a gouty patient.

54. What is the proper treatment of congenital cataract?

55. Describe the modern operation for senile cataract with iridectomy.

56. What are the ophthalmoscopic appearances in albuminuric retinitis?

57. What are the ophthalmoscopic evidences, if any, of brain tumor?

58. What are the ophthalmoscopic appearances in embolism of the central, retinal artery?

59. What are the varieties and causes of atrophy of the optic nerve?

60. Give the pathology, symptoms and proper treatment of glioma?

61. What are the causes of convergent strabismus?

62. How would you differentiate between a case of convergent, concomitant strabismus and one of paralysis of an external rectus muscle?

63. What would be your first prescription in a case of convergent strabismus in a a young patient?

64. Define esophoria, and hyperphoria and describe the method of testing for the same.

65. What are the causes, possible consequences and treatment of acute dacryocystitis?

66. How would you differentiate between exophthalmos due to the presence of orbital tumor and exophthalmic goitre?

67. How would you prepare a patient for an operation on the eye?

68. What are the indications for the use of atropine in the eye?

69. What are its effects and what diseases or conditions contra indicate its use?

70. What is the effect of eserine upon the eye?

71. Name three diseases or conditions in which its use would be indicated.

72. What are the effects of cocaine upon the eye and what precautions should be observed in its use?

The Corpuscle.

EDITORS.

P. A. WAKEFIELD. Editor-in-Chief.
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Ruby Red and Black: Colors of Lake Forest University. Orange: Color of Rush Medical College.

AFFILIATION OF RUSH WITH THE UNIVERSITY OF CHICAGO.

At a meeting of the Faculty Jan. 4., 1898, the following proposition was received from the University of Chicago:—

University of Chicago, Jan. 3., 1898.

At a meeting of the Board of Trustees of the University of Chicago, held Dec. 29, 1897, the Committee on Affiliation recommended that upon a petition of the Rush Medical College for affiliation, the University enter into terms of affiliation with said college on the following conditions:

1. The Board of Trustees of Rush Medical College shall be reorganized in such a manner as that it shall consist of men satisfactory to the Board of Trustees of the University.

2. The Board of Trustees as thus reorganized, shall pledge itself to increase the preliminary requirements for entrance to the Rush Medical College in accordance with the action already taken by its trustees so that in 1902 the requirements for admission shall include the freshmen and sophomore years of college work.

3. That the affiliation shall take effect June 1, 1898, provided the debts of Rush Medical College shall have been paid at that time. In case it shall appear on June 1, 1898, that the college needs more time for the payment of its debts the Trustees of the University of Chicago will entertain a request to

extend the time for a period not to exceed eighteen months, but no affiliation shall be entered into until said debts shall have been paid.

This proposition was approved by the Faculty and recommended to the Board of Trustees.

At a meeting of the Board of Trustees the following day, all the members of the active Faculty holding positions on the Board of Trustees resigned. Those retiring were: Drs. E. L. Holmes, Henry M. Lyman, E. Fletcher Ingals, James Nevins Hyde, James H. Etheridge, Walter S. Haines, Norman Bridge, Nicholas Senn. In their places were elected: William R. Harper, President of the University of Chicago and who was made President of the College; Thomas W. Goodspeed; Jesse A. Baldwin; Andrew McLeish; Chas. A. Hutchinson, who was made Treasurer of the college; J. J. Glesner; Frank B. Tobey and A. A. Sprague. Henry M. Lyman was then appointed Senior Dean of the College; John M. Dodson Junior Dean, and E. Fletcher Ingals Registrar, Examiner (not appointed), Prof. Etheridge and Prof. Hyde were made a council of administration.

The affiliation is not entered into until June 1, 1898, but there is every reason to believe that it will be then, most of the new members of the Board of Trustees being also members of the Board of Trustees of the University of Chicago. Of the old Board of Trustees those who retain their positions are: Dr. DeLaskie Miller, Dr. Ephraim Ingals, Nathan M. Freer, Lyman J. Gage, H. H. Kohlsaat and Frederick O. Smith.

OUR FRONTISPIECE.

As a frontispiece for this issue we present the likeness of Messrs. A. F. Stevenson, Jr. and F. E. Pierce, the members of the CORPUSCLE board who retired with the issue of the January number. They have worked hard and persistently to make the CORPUSCLE a journal of interest to the students and to the alumni, and to them is due much of the credit for the success to which it has attained. Both are degree men, Mr. Stevenson having taken the degree of A. B. at Harvard and Mr. Pierce that of B. S. at the University of Wisconsin. Both are members of the Cook County class and we predict for them success in the coming competitive examinations for interneships in that hospital. To them is due well-merited praise for their efficient work on the CORPUSCLE. It wishes them every success in their life work.

ENTRANCE REQUIREMENTS.

According to a recent action of the Board of Trustees, a progressive increase in the preliminary requirements for entrance to the college will be made so that in four or five years a man must have at least passed through the sophomore year in a literary college before he may begin the study of medicine in Rush. In carrying out this resolution it is probable that all students who enter next fall will have to possess either a Bachelor's degree, a diploma from a first-class high school, normal school or an acedemy, or a certificate of having passed the entrance examination to some university, or he will have to pass entrance examinations here in the following branches: Englis composition; U. S. history; Geography of the world; arithmetic, including use of logarithms, Latin (first four books of Caesar); Algebra, through quadratics; French or German, about three hundred pages of contemporary prose or, in place of these latter, solid geometry.

The following fall the entrance examinations will be considerably harder, amounting to the entrance examinations to a first-class university.

"THE SKULL AND SERPENT."

The CORPUSCLE has for some time entertained a suspicion that something was to happen within the ancestral halls of Rush. Therefore it urged, its readers in its last issue, to "Be good, Be good!,"—and also as food for thought suggested' "If you only knew!" The CORPUSCLE did not itself then know, but it does now. A senior society, the "Skull and Serpent," has been organized. We have seen the pin—a golden skull with emerald eyes mounted upon a green serpent. This we believe is the first and only senior medical society of its kind yet organized and we have assurance that it shall be the nucleus from which will spring other chapters in the prominent and only the prominent medical colleges of the United States. A senior society of this nature has long been a crying need in the medical world and the CORPUSCLE may feel justly proud that in Rush the first steps have been taken. We understand that one of the first requirements for membership is high standing in the college work, therefore it ought to be an incentive to under classmen to be proficient in their work. The CORPUSCLE wishes the "Skull and Serpent" a life, long and prosperous.

THE RETIREMENT OF PRESIDENT HOLMES.

After many years of intimate association with Rush men, and for the past eight years as the President of Rush Medical College, Dr. Holmes has found it necessary to retire from the presidency of the College. Undergraduates and faculty, individually and collectively will feel the loss of the Doctor who retires on his 70th birthday, February 5. In our next issue we expect to publish an excellent likeness of our venerable president together with his biography.

ANNOUNCEMENT.

With this issue of the CORPUSCLE two new members have succeeded to the vacancies caused by the retirement of Messrs. A. F. Stevenson and F. E. Pierce. Though Mr. Pierce's time was not up until after the May issue (1898) he asked that he might retire at this time, owing to the fact that he is a member of the Cook County Class. Accordingly we introduce to our readers the two new members of the Editorial Board, Messrs. J. V. White, 1900, and W. Murray, 1900, whom we have every reason to believe will become hard-working and efficient editors. As a new board we ask the indulgence of our friends until we shall have become better acquainted with our duties. We shall endeavor in the future, as in the past, to make the CORPUSCLE a journal for the students.

Alumni Department.

JAMES B. HERRICK, A. B., M. D., EDITOR.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to The CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Chicago.

MAHOMET, ILL.

To the CORPUSCLE:—I have a man under treatment for organic heart disease who formerly had a lesion concerning which I have found nothing in my text books. The doctor in charge of the case at that time, a former Rush man, diagnosed it as hydromeningitis.

He was called to the case by a messenger who stated that the patient had "bursted his head". The patient was a man 42 years old, a wood chopper, family history and personal history good as far as could be obtained. Only complained the night previous of fullness of the head, which increased till toward morning when the pain became almost unbearable. A snapping sound announced the separation of the bones of the skull. The doctor found room to insert his finger in many places between the occipital, parietal and frontal bones.

Treatment consisted of the iodides—to which the disease promptly yielded. A bandage about the head was required for two years. A ridge can still be felt at the line of separation.

E. A. JOHNSTON.

KANSAS CITY, MO.

Editor CORPUSCLE:—I occasionally see the names in the CORPUSCLE of old classmates of whom I have not heard in years. In the December issue are the names of two, R. W. Wigginton, of Waukesha, Wis., and H. H. Hagey, of Norfolk, Neb. I remember them distinctly, although 'tis most thirty years since we parted at the doors of "Old Rush".

Hoping you will receive the support of every one of the alumni in giving us a good journal, I am yours very truly,

N. A. DRAKE, M. D., '68

BLOOMVILLE, N. Y.

Dear Doctor:—I have made quite a change in my location recently and am located here in a rather picturesque little place

set down between the hills on the edge of the Catskill Mountains. I have purchased the small drug store and take the place of a young but successful practitioner. Prospects look favorable.
S. H. RABUCK, M. D., '96.

Dr. Edward J. With, '96, reports prosperity from Barada, Mich. He desires the address of S. A. Edmands of his class.

John M. Frame, '85, is practicing medicine and growing lemons at Moreno, California. His class, he informs us, was the one to design the college pin and the first class to wear it.

Among the older graduates who still retain their affection for their Alma Mater is J. B. Fares, '64, who is at Romeo, Michigan and J. M. Hagey, '62, of Mt. Morris, N. Y.

J. C. Doolittle, '88, is assistant superintendent of the Iowa Hospital for the Insane, Independence, Iowa.

J. C. Rhoden is located at Elk Point, South Dakota, and writes that he is enjoying a good practice.

MARRIAGE OF DR. FRENCH.—Dr. Paul Penney French was married December 28 to Miss Lillian De Mart, of La Porte City, Iowa. The bride was one of La Porte's most highly accomplished young ladies and will be greatly missed by her host of friends. Dr. French is well remembered as a member of the class of '97. He is located at Staceyville, Iowa, and reports a very fine practice.

MARRIAGE OF DR. FRAZIER.—We learn from the *Kendall County Record*, that Dr. F. R. Frazier, '95, Yorkville, Ill., was married at noon, December 29, to Miss Sadie Randolph, of Aurora. The CORPUSCLE joins in congratulations.

Dr. L. A. W. Burtch, '97, writes from Clifton, Ariz., where he has recently located and found practice good.

CORRECTION.—In the January CORPUSCLE, page 161, the words "C. W. HALL, M. D., '87," should follow the letter from Dr. Hall which ends on page 164.

Dr. Jesse Yonan, a graduate from Rush Medical College, Chicago, will speak on mission work in Oroomiah, Persia, at the South church this evening at 7:30 o'clock. Dr, Yonan is a son of Malek Yonan, who is considered among the most eloquent men in the nation. Dr. Yonan possesses unusual eloquence, has great ability and is a most earnest spirit.—*Union*, Springfield, Mass., January 18.

HEARD ABOUT COLLEGE.

Prof. Sanger Brown began his series of lectures on "Medical Jurisprudence and Hygiene" to the juniors on January 6. This course continues throughout the spring term and promises to be one of interest.

In the medical clinic:—Senior J— thinks he would examine the bone marrow in a case of chlorosis. That might be all right, J—, but would it pay to amputate a limb to get a little bone marrow when other signs would ordinarilly suffice for a diagnosis?

"Be good! Be good!" Some Seniors said,
To some D. J's one day;
"Some day you'll have a Senior's tread,
If you pass your exam's next May.

On all sides we hear the cry; why don't the CORPUSCLE contain more college notes? We echo, why doesn't it? We answer; because it is left to five men, the editors, to gather in all notes and items of interest which occur in an institution in which upwards of 600 men are interested. We do our best and have no apology to offer. We will again *urge* each one in college to note any item or items of interest to which his attention may be called and not leave it for some one else to do. If each man would take a personal interest in such matters we could soon make our monthly one of greater interest to the student body. Let us endeavor to have more college notes hereafter. The board promises to increase the number of pages if necessary, so shower your notes upon us.

In Medicine:—Mr. R. (Talking about whooping-cough):—The patient feels like he wants to hold on to something and whoop.

Dr. S.:—What is the whoop?

R.:—Well....ah....just a *whoop*, that's all doctor.

Dr. Shaw:—What is the foramen of exit of the seventh nerve?

Mr. S.:—The facial canal.

Dr. S.:—How does it get into the facial canal?

Mr. S.:—Through the Fallopian tube.

Dr. S.:—What's that!

Mr. S.:—Ah....I mean the Eustachian tube.

In Medicine (speaking of Variola):—"If the true skin is involved to any extent we have a large pock; if but slightly involved, we have *small pocks.*"

In the Clinic—Schreuder—"The patient has a temperature of 101 degrees."

Prof. H.:—"Where did you take the temperatnre."

S.:—"Out in the other room."

The name of I. J. K. (L. M. N. O. P.) Golden appeared on Prof. Ingals' staff a couple of weeks ago. Is this the man otherwise known as "Klondike Golden?"

Communication:—We have in the junior class a young man who practices somnambulism. A few nights ago this young man (whom we will call J. R. T———r) made a desperate attack on his roommate, with a deadly weapon. M. M. E———s (the roommate) fortunately awoke in time to protect himself and suffered no injuries other than a severe fright.

N. B.—For a "full" account of the attack we refer our readers to B. F. S———s (alias Dr. Stethoscope),

We are glad to note an improvement in the manner of lightning the upper amphitheatre. From the opinions expressed by the students, however, we judge that the new lights would be more appreciated if they could be raised during the lighter hours, in order that they might not obstruct the view of the blackboards from the upper rows of seats. We would suggest also that the lights be shaded in some way, as they are very hard on the eyes.

Personal.—Will the embryonal doctor who kindly assisted me in my performance during the physiology lecture a short time ago call at the State Nursery. A lucrative position awaits him. MLLE. MINUS SENSORIA.

We are told that one of the seniors got it "rubbed into him" in therapeutics a short time ago.

In Medicine:—How many forms of small-pox are there?

Mr. T.:—Well, there is the "concrete" form——(he got no further).

We are sorry to learn that Dr. E. D. Whiting, of the Presbyterian Hospital has gone on a month's leave of absence to Alma Sanitarium, Alma, Mich.

Prof. Hyde was called East recently on account of illness in his family.

Dr. W. E. Richardson, '96. Angelica, Wis., is desirous of corresponding with seniors who can speak German or Polish and have not as yet chosen a place for practice.

THE PRESBYTERIAN HOSPITAL CONCERT

at the Auditorium drew not only the largest but the most distinguished gathering seen anywhere this season. The boxes showed society and the professions in about equal divisions. Not a seat was to be had, and the double rows of standing people back of the orchestra chairs. was a reminder of a favorite opera night. Even the topmost gallery showed beautiful gowns and sparkling gems, and everywhere there was beauty and wealth to grace the occasion. The first string of chairs close to the stage was occupied by the white-capped nurses and two upper boxes held the head nurses, who were also in uniform.

Nordica was enthusiastically received, and after her first number, Erkel's grand aria, sheresponded to repeated encores with "Kathleen Mavourneen." Upon Plancon and Ysaye were bestowed scarcely less evidence of strong appreciation. The singing of "The Lost Chord" by Plancon, which was given as an encore after the "Air du Tambour Major," and was accompanied by both orchestra and organ, aroused the audience to a frenzy, which abated only when Nordica appeared to give Weil's "Autumn" and "Spring," with violin obligato by Ysaye. The orchestra, under the direction of Theodore Thomas, opened the programme with the overture from Tannhaeuser and closed it with Hungarian rhapsody No. 2.

The programme in full was:

Overture, "Tannhaeuser" .... Wagner
Prelude and air, "Don Carlos" .... Verdi
M. Plancon.
Concerto .... Saint-Saens
M. Ysaye.
Grand aria, "Ah Rebeges a mi Vadul" .... Erkel
Mme. Nordica.
Overture, "William Tell" .... Rossini
Duet, "Crudel! Perche," la Nozze di Figaro .... Mozart
Mme. Nordica and M. Plancon.
Finale, from concert No. 1 .... Vieuxtemps
M. Ysaye.
"Air du Tambour Major" .... A. Thomas
M. Plancon.
Songs, "Autumn," "Spring" .... Oscar Weil
Mme. Nordica.
Violin obligato by M. Ysaye.
Hungarian ahapsody No. 2 .... Lizst.

President Harper visited Rush January 10, and was shown over the buildings by Professors Hyde, Haines, Ingals, and Etheridge.

Prof. Dodson (during lecture on circulation):– "The reason why we put a nozzle on a hose is in order to get greater force and pressure of the blood in order to put out the fire."

As the result of the competitive examination for prosectors, the following have been appointed; O. A. Dahms, B. J. Ochsner, A. W. Gollmar, I. W. Kleinman and T. P. Lynam.

WITH OUR EXCHANGES.

American Resorts for January comes out in new dress and magazine size, an improvement in being more adapted to the library shelf. "At Santa Barbara," with its excellent halftones, makes the number of rare interest to we who have visited that charming place and of value to him who ever expects to visit there.

Mr. H. G. Cutler, former publisher of the CORPUSCLE, is editor of *Hospital Life*, a new monthly whose January issue is Vol. 1, No.1. This journal has a field of its own and merits success.

A case of Melanosarcoma of the liver, and the case of ainhum which was reported in the CORPUSCLE for October, 1897, was presented before the Chicago Medical Society October 20, by Dr. Herrick. Full reports of both may be found in the *Chicago Medical Recorder* for November.

The following is a sign upon an academy in one of the far western schools: Freeman and Huggs, School Teachers. Freeman teaches the boys and Huggs the girls.

To read the *Living Age* is to be well posted. Recent articles of inestimable value to the busy pactitioner who would know what is going on outside his own country are: "Who Will Exploit China;" "Moscow;" "The Unrest of Nations;" and "The Dual and Triple Alliance and Great Britain." On subject a little nearer home we commend "The Inhabitants of Milk" and "Work and Sleep" in the issue for January 15.

Prof. H. (in chemistry): "Mr. B. give a description of your experiments in the laboratory yesterday."

Mr. B. "First I took an aequus solution of water and—

Prof. H. (interrupting): "That will do."—*Adapted from Scio Collegian.*

The *British Medical Journal* of November 13 contains an article entitled, "The Relation of Nasal Disease to Pulmonary Tuberculosis," by Prof. Ingals.

The *Overland Monthly* is just the magazine to pick up for a restful half hour's reading when one's brain needs a change. Its characteristic California stories have a peculiar charm, of interest to all and especially to those who have visited the scenes they depict.

In *Medicine*, November, Prof. Geo. H. Weaver has an article entitled "Hemorrhage Into and About the Pancreas; Arteriosclerosis, Probably Syphilitic; Peculiar Location and Radiation of Pain."

Willie—Mamma, what does "blood" relation mean?

Mamma—It means near relations, Willie.

Willie (after a thoughtful pause)--Then, mamma, you and papa must be the bloodiest relations I've got—*Exchange.*

The *Midland Monthly* for January is the Midwinter Fiction Number and its contents comprises twenty-three titles. Many of the articles are illustrated and of marked interest. "A Hospital Sketch," "Australian Aborigines" and "An Empress and an American Doctor" are especially noted.

The *Sanitarian* for January contains: "Dependent Children and Family Homes;" "German Employment of Women and Children;" "Investigations of Water supply;" "Unsatisfactory Condition of Garbage Disposal in America;" "Ocean and High Altitude Health Resorts;" High Tension and High Altitudes," etc.

Another number of that favorite magazine among students, *Outing* for February has been received. Each month it becomes more interesting though one wonders how another number can be better than the one just laid aside for a new issue.

Public Opinion's weekly visits are looked forward to by the busy physician, for each week he finds therein the opinions expressed by the leading presses throughout the country, concerning the world's doings with brief abstracts of value in the departments of science, sociology, religion, art, etc.

SIDE TALKS WITH STUDENTS.

C. S. W——s:—No, the receptaculum chyli has never been removed without serious impairment to the vital force. By the way, the above portion of the thoracic duct may be easily mistaken for the vermiform appendix in the cat.

QUIZ MASTER:—Statistics are not at hand regarding the query sent by you, but we coincide with you that the Sophomore class contains more noise to the cubic inch than any other class since the fire.

MEMBERS OF C. C. C.:—No, we do not handle rabbits' feet. Our advertisers are reliable, perhaps they can furnish you a certified rabbit's foot.

PUBLISHER'S NOTES.

IMPERIAL GRANUM COMPANY, New Haven, Conn., Dec 29, 1897.

Dear Sirs:—I have raised my baby on Imperial Granum, and no healthier child can be found. She is three years old, weighs thirty-six pounds, and still has two meals a day consisting almost wholly of Imperial Granum. Her last meal at night at night is Imperial Granum only. It is soothing, nourishing and satisfying, and gives good sleep and no nightmare. I know of no food that is as good for babies and children. ——, M. D.

Samples for clinical test supplied only to ***Physicians*** and trained nurses, Free, prepaid, on request.

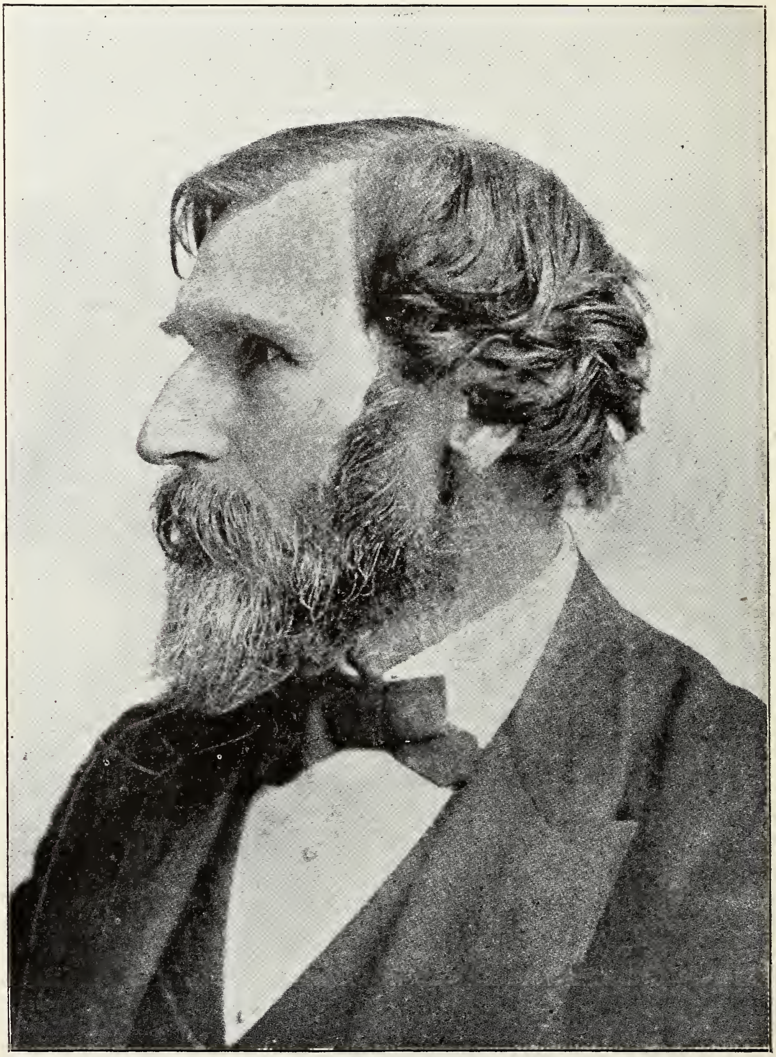
GIFT TO CERCLE FRANCAIS.

J. H. Hyde, '98, of New York, has presented to the Cercle Francais, Harvard's French literay and dramatic society, of which he is President, a fund amounting to $30,000, for the establishment of an annual lectureship on subjects conneceted with the French literature, art and history. The lectures are to be given in French by some prominent man, who is to be invited to this country each year. Mr. Hyde is the son of H. B. Hyde, of New York, President of the Equitable Life Assurance Society. The lecture will be held in trust by the Mercantile Trust Company of New York, which will put the income each year at the disposal of the Cercle Francais upon the conditions stipulated. The first course of eight lectures will be given next March by Rene Doumic, the well known literary critic of the *Revue des Deux Mondes*. The subject this year will be "French Romanticism." The lectures will be open to members of the Cercle Francais and of the university by ticket on application.—*N. Y. Evening Sun.*

A useful and ornamental calendar, "Skeleton Sketches" peculiarly appropriate for the physician, has been received from the Antikamnia Chem. Co., St. Louis.

A WINTER REMEDY.

Some products of the coal-tar series are safe, while others are very dangerous. Antikamnia has stood the test both in the laboratory and in actual practice; and is now generally accepted as the safest and surest of the coal-tar products. Five grain "Antikamnia and Codeine Tablets," each containing 4¾ grains Antikamnia. ¼ grain Sulph. Codeine afford a very desirable mode of exhibiting these two valuable drugs. The proportions are those most frequently indicated in the various neuroses of the throat, as well as the coughs incident to lung affections.



PROF. EDWARD L. HOLMES, M. D.

The Corpuscle.

Rush Medical College, Chicago, Ill.

Medical Department, Lake Forest University.

VOL. VII. MARCH, 1898. NO. 6.

PRESIDENT EDWARD L. HOLMES, M. D.

BY PROF. HENRY M. LYMAN.

The recent retirement of Dr. Holmes from the presidency of the faculty of Rush Medical College, and from the professorship of Ophthalmology and Otology in the same institution, marks an epoch in the history of the college and in a long and illustrious professional career.

Born in Dedham, Massachusetts, on the 28th of January, 1828, Edward L. Holmes was at an early age distinguished for love of books and close application to study. His education was chiefly obtained in the public schools; but, living not far from the celebrated Brook Farm, he enjoyed for a time the advantage of classical training from a scholarly member of the community, the late Charles A. Dana. Thus prepared for the university, Edward entered Harvard College in the year 1845, and was graduated four years later with high honor in his class. For two immediately succeeding years he occupied the position of assistant teacher in the Roxbury (Massachusetts) Latin school, where he continually added to his knowledge and experience besides laying up the means with which to procure a professional course. Having completed three years of medical study, he was graduated from the Harvard Medical School, in Boston, in the year 1854. After a brief experience with practical work in the Massachusetts General Hospital, having already acquired considerable knowledge of the languages of Europe, he went to Paris, spending eighteen months in special medical study in that city and in Vienna. He then returned to America, and soon decided to seek his fortune in the great west, then rapidly filling with immigrants from the eastern states and the old world. Attracted by the rapid growth and renown of Chicago, Dr. Holmes decided to begin the practice of medicine in this city, opening an office on North Clark Street late in the summer of 1856. There he found an unlimited field for the pursuit of his specialty; and in the year 1858, he founded the "Illinois Charitable Eye and Ear Infirmary," occupying very modest quarters on the north side of the city, until dislodged by the great fire in 1871. After that disaster, the doctor succeeded in arousing the interest of the state in the welfare of the institution, and the present building—still occupied—was erected by the State, at the corner of Adams and Peoria streets, for the accommodation of this indispensable charity.

During these years, besides carrying the burden of an enormous practice, and rebuilding his own residence after its destruction in the "Fire" of 1871, Dr. Holmes was actively engaged in the work of medical teaching. For four years, from 1859 till 1863, he gave instruction concerning diseases of the eye and ear, to the students of Rush Medical College, during the summer terms. In 1863 he was appointed Lecturer on Diseases of the Eye and Ear, in the winter course of lectures. In the year 1869, he was promoted to a full professorship, with the title of Professor of Opthalmology and Otology, a position which he filled with great distinction till the date of his recent retirement.

But the roll of honors was not yet exhausted. In the year 1871 he was elected a trustee of the college; and in 1890, on the death of Professor Moses Gunn, M. D., he became president of the faculty of Rush Medical College, receiving, soon after, the degree of L. L. D., conferred upon him by Lake Forrest University.

In this bare catalogue of titles and promotions, one cannot fail to perceive the wide range of experience that has fallen to the lot of our late presiding officer. Few men ever live to enjoy such vast and varied opportunities for usefulness and fame. Honestly won, modestly worn, and honorably resigned, no man ever more thoroughly deserved the laurels that have been his. Long may he yet live, free from care, to cheer with the counsels of age and experience, his companions and successors who are not yet delivered from the heat and the burden of the day!

LEGTURES ON GENERAL PATHOLOGY.

BY PROF. KLEBS.

(Continued from February.)

The Action of Microorganisms:

17. Very seldom and only in the higher forms of parasites do we see the purely mechanical action, as in the compression of brain by cœnurus and others. But also in worms a toxic element becomes more and more apparent. The poisonous action also in higher parasites is a valuable part of their action and not more doubtful. So Runeberg has shown the connection of certain forms of grave anemia with bothryocephalus. The nervous symptoms in the development of Ascaris in the intestines of children may not only depend upon reflex action, but also upon intoxication. In the last time dried substance of Ascarides is used as a vermifuge.

18. As to bacteria, mainly to the anthrax is ascribed oftentimes only a mechanical effect, but from the elder observations we will not forget that death follows if there are no free bacteria found in the blood and no obstruction of vessels, so that many of the older observers thought the bacteria developed after the death. Ernes Tiegel, who showed as my assistant by filtrating off the anthrax bacills through cells of burned clay the first time the effect of pure micro-organisms, observed that the animals injected with the filtrated fluid did not become infected, but died after some time; later Hoffa demonstrated a poison, contained in the cultures of anthrax bacilli.

19. We can say now that toxicity is the general property of all pathogenic micro-organisms.

20. There are, in regard to the dissemination of bacteria in the body two different forms, the one acting only from a more or less circumscribed part of the surface, the other penetrating into the interior of organs and disseminated by the fluids of the body, by lymph and blood. Under the first forms we have diphtheria, cholera and tetanus, acting exclusively by the poisons developed by them. The second forms can have some mechanical effects, but only a very locally developed, as the penetration of the walls of vessels.

21. Local and general effects of bacteria: The first are inflammatory and necrotic processes; the last toxemic processes. Absence or presence of reaction, septicemia and pyemia.

22. Wholesome influence of leucocytes generally or local. Phagocytosis (Metchnicoff) may be one of the processes of destroying bacteria, but not exclusively. Bacteria-killing power of the fluids of the body, the Alexines of Buchner. The normal body therefore possesses a number of helping properties in the battle with the micro-organisms.

23. The bactericidal substances of the normal body are probably identical with some phosphoric compounds derived from the nuclei promoting blood coagulation and formation of fibrin. (Nucleo-albumin, Thrombosin *Pekelharing*, *Lilienfeld.*) It is shown by Wooldridge and Wright that rabbits, by injection of nucleinic substances can be preserved from anthrax infection. Also, it is shown by Wassermann, in the last time, that tetanus can be prevented by normal brain substances. But it is not at all probable that we will find in this way the sure manner of immunization against all pathogenic organisms, for this we need the action of specific antibodies. Necrosis commences always with karyolysis, the solution and expulsion of nucleinic substances.

24. This helpful leucocytosis originates by chemiotaxis (Pfeffer). attraction or repulsion of the leucocytes, properties of different bacteria products.

25. Every pathologic organism produces substances of different qualities, as it is the case with every living body. The toxins produced by them are, as in snake poison, the product of secretion. The excreted substances formed by micro-organisms, as by every living body, are autotoxins, creating substances causing self-poisoning, as in higher animals the urea and bile acids: Toxic and bactericide productions.

26. The third and most remarkable action of micro-organisms, the immunization, depend only upon substances contained in the body of them, probably from the same constituent as nucleo-proteins, containing phosphorus.

These three substances must be regarded separately. The opinion of Behring and the school of R. Koch that only toxins are contained in the cultures must be rejected totally, as not agreeing with general natural laws and not in accordance with facts.

27. *The Toxins*—The toxins are not, as is shown by the persistent labors of Brieger, albumoses, but crystallisable products. It is impossible to study the substances which are precipitated with the albumoses in the usual manner of preparing them. Fluids often designed as toxins are no other but concentrated culture fluid of high toxic character, but containing also the albumoses, including the sozalbumoses or healing substances.

28. The preparation of pure toxin is the following (Brieger): Precipitation of culture fiuids with zinc chloride; decomposition of this compound by ammonium phosphate, and precipitation of the resulting toxin, by dissolving first ammonium sulphate, afterwards sodium sulphate in the fluid (German word "Aussuessen"). The brownish mass on the filter can be freed of the greatest part of the sodium sulphate by washing in water (a change in preparation adopted by me). The toxins, not so soluble as the salts, will remain on the filter.

29. Action of pure toxins (after Brieger): Tetanus toxin prepared in this manner acts in nearly infinitesimal quantity, $\frac{1}{40000}$ of a milligram being a deadly dose for guinea-pigs of 200 grams weight. For a man of 70 kilograms weight would be required $\frac{1}{3}$ milligram. Strychnine kills a man by only 30 to 100 milligrams. The botuline toxin (meat poisoning) kill animals in the same proportions as contained in the culture. Diphtheric toxin, prepared by me in this manner, had a minimum killing dose of 2.4 milligrams for white mice of 15 grain weight,

30. The physiologic action of toxins. The toxins of the different bacteria show some differences in their physiological actions; the one, as the typhoid and diphtheria toxin immediately elevate the temperature (rats, guinea-pigs, rabbits), the other toxins, as cholera toxin and tubercle toxin cause a depression of temperature, oftentimes so deep that from this cause the animal will die. (Rats die if the temperature goes down below 80 degrees F. or 26.6 C.)

The most general changes of organs in the infectious diseases are the following:

a. The cloudy swelling of the glands and muscular tissue.

b. Fat formation in cells—fatty degeneration.

c. Destruction of nuclei, losing their staining substance, nuclein, in some cases with karyorhexis (typhoid fever), in others with karyolysis (cholera Asiatica-kidney.) We must make the conclusion that cholera toxin promotes in first line desoxidation, as it is shown also in some poisoning, with phosphorus, pyrogallic acid (Rabuteau) and others. The second effect is the destruction of nucleinic substance, found only in the poisoning with bacteria toxins, and possibly not present in all of them.

31. This last property of bacteria toxins give very interesting relations of the toxic effects with the coagulation of blood. It is shown by Frennd, Wooldridge, Pekelharing and Lilienfeld that the nucleo-albumins, in combination with chalk, promote the formation of fibrin in fibrinogenous fluids, whereas the non-coloring part of nuclear contents, the Histon stops this formation and hinders the coagulation of blood. By the different action of these nuclear substances may be explained the formation of thrombi or high coagulability of blood in other infectious diseases. Moreover, Wooldridge pretends to have immunized by nucleo-albumin rabbits against the anthrax bacillus, and Freund says that the poisonous action of diptheria toxin is destroyed by the same subtance.

32. That may or may not be: So much is clear that there exists a certain parallelism between the action of nuclear substances of higher animals and of bacteria cells, In the latter the presence of nuclear substances is shown by the manner of staining by alkaline aniline colors, and by the fact shown by me that true nuclein dissolvtng in weak alkaline solutions and containing phosphorus is present in the body substance of bacteria.

32. Action of antitoxin prepared from the culture fluids of pathogenic bacteria.

This substance is not precipitated by sodium bismuth iodide, and can be freed by this reaction from the toxins as used by me in the preparation of tuberculocidin. In the same manner other antitoxic substances can be prepared, as it seems, from all pathogeuic bacteria. This substance is probably, after the expression of Willy Kuehne, a hemipeptone.

33. This cultural antitoxin acts: a. As a bacteria cide or bacteria-killing substance, as shown in the action on tubercle bacilli ("Causal Treatment of Tuberculosis," by Edwin Klebs, 1894). b. It prevents, injected a short time before the injection of toxin or with it, the deadly effect of the toxin. c. It elevates the deep temperatures following toxin injection

to the normal. d. In tuberculosis it can heal the gravest affections in animals (guinea pigs).

34. The small dose necessary for this healing action can be explained only by the interference of moveable cells (leucocytes), transporting the antitoxin to the infected point.

35. Serum therapy searches to effect the formation of antitoxins by injecting great quantities of culture fluids or also living bacteria into the blood of animals. The idea of its foremost supporter (Behring) is that in this process antitoxic substance is formed from the body of the immunized animal, but Dzierzgowski showed that in immunized horses only the serum of the blood and other fluids contained the antitoxin, which was not to be found in the cells (white and red blood corpuscles and tissue cells). He concludes, rightly, that this distribution of antitoxin does not agree with the formation of the substance by the body cells. He thinks that the antitoxin is formed in the body from the injected substance or the toxin, but as the substance contains not only toxins but also antitoxins, it seems to be more probable that the toxins are destroyed in the body and the antitoxins preserved. The last can be eliminated by the urine, not the toxins. R. Pfeiffer pretended lately to have found in the spleen the formation of antitoxia (or of Alexins?)

As it is not doubted but that these antitoxic serums in some diseases act helpfully, as in diphtheria and tetanus, this method gives some good results, but it is to be noted that by injecting great quantities of animal serum some dangerous results can arise which are not always controllable. As the facts show that sometimes after careful injection of these fluids death succeeds in a short time, the injection should not be made without the greatest care. First, the needle should only be inserted in the skin, and, second, if no blood comes out, first small and then after ten or fifteen minutes greater quantities should be injected. It is observed lately a personal idiosyncracy against diptheria-antitoxin.

36. Further, it may be remarked, that the serum of animals immunized against the action of different bacteria show different properties. Whereas the diphtheria serum shows only antitoxic properties, the serum of cholera-immunized animals (R. Pfeiffer) is not antitoxic but bacteria-killing.

37. From all this it follows that we can and must substitute the serum antitoxins by the antitoxins of the cultures, from the use of which no danger can arise.

RESUME IN THE FORM OF OUTLINES OF PROF. HEKTOEN'S LECTURES ON GENERAL PATHOLOGY, FOR THE GUIDANCE OF BEGINNERS.

(Continued from page 179.)

d. Phagocytosis or Intracellular action of cells (Metschnikoff): The process of phagocytosis; the mobile and fixed cells that may act as phagocytes; the role of chemiotaxis in phagocytosis; the evidences of intracellular digestion and the changes bacteria may undergo in phagocytes; Metschnikoff's proofs that bacteria are ingested while virulent; the incorporation of bacteria by cells does not always destroy bacteria; e. g. Tuberculosis, leprosy etc.; the relation of bacterial virulence to the extent of phagocytosis (anthrax).

The function of phagocytes in removal of debris in aseptic inflammations and in bacterial inflammations after the active agent has been destroyed or neutralized; the part played by leucocytes in supplying formative cells with nourishment.

e. The Extracellular Action of Leucocytes: Phagocytosis is not the only essential element in inflammation; Nuttal's demonstration that serum is bactericidal; the experiments that point to liberation and production of bactericidal substances by leucocytes (Buchner, Denys and Havet, Vaughn and Novy, Löwit, Hankin, Stokes and Wegefarth); the protective bodies, or alexins, of the serum; the strongly bactericidal, extracellular action of healthy granulation tissue (Affnassiew); not all leucocytes are phagocytes—the eosinophiles are not phagocytes and yet they are often present in inflammation in large numbers; do they secrete granules? Kanthaek and Hardy's experiments; the evidence at hand pointing to secretion of bactericidal granules by the coarsely and finely granular leucocytes.

Conclusion: Chemiotaxis and leucocytic emigration are very important and quite constant steps in the acute inflammatory process; the polynuclear and hyaline leucocytes are partly phagocytic; the eosinophiles and the neutrophiles produce granules that are bactericidal; the disintegration of leucocytes increases microbe—killing power of inflammatory serum.

4. The Inflammatory Exudates. Variation in am't and kind according to tissue and inflammatory agent. The presence in exudates of proteids, fibrin, digestive ferments and peptones, and bactericidal substances.

a. The *serous* exudate: little or no fibrin, few cells, more albumin than transudates; acts favorably by washing out tissues, by bringing nourishment to the cells, but most important action is to carry bactericidal substances; may act unfavorably by carrying bacteria into healthy tissues, by obstructing larynx, etc.

b. The *fibrinous* (sero-fibrinous) exudate: may form in tissue spaces and on free surfaces; liberation of the so-called fibrin ferment occurs by disintegration of various cells; the ferment acts on substances in the plasmatic fluid that exudes from the vessels and filamentous or hyaline fibrin is precipitated; appearances of fibrinous exudates; limitation of infiammatory process by fibrinous adhesion, e. g. around vermif. appendix.

c. The *hemorrhagic* exudate: an extensive diapedesis of the red corpuscles gives the exudate (serous or sero-fibrinous) a bloody appearance; this signifies a grave change in the vessel walls.

d. The *purulent* exudate, or *pus*: a yellowish, milky fluid with many cells but no fibrin; this peculiarity is due to peptonification of the proteids, the fibrin, and the necrotic tissue by ferments produced by bacteria and by cells; peptonification occurs in the liquifaction of the gelatine in the bacteriological laboratory; sterile pus due to copper in anterior chamber of eye contains digestive ferments; the cells in the pus and the changes they undergo; the formation of abscesses; the pus microbes. Suppuration is an unfavorable termination of infection causing local destruction of tissue.

4. The Fixed Cells in Inflammation. The relation of the retrogressive and the progressive changes that occur. Immediate death in consequence of primary injury is a phenomenon foreign to inflammation because dead cells do not react—the lesion must be slight, circulation must persist, later necrosis may occur from

accumulation of toxic products, from stasis, from pressure of exudate; cloudy swelling and fatty degeneration, dropsical and mucoid changes may occur. These changes occur most markedly in early stage; as acute changes subside formative cells are produced for regenerative purposes; often cell proliferation begins too early and exceeds in degree that necessary for repair only; such changes may be due to direct "formative stimuli," as may be the case in tuberculosis, or to the bathing of cells in a richly nutritive exudate.

What is granulation tissue? Its structure: 1. Polymorpho-nuclear leucocytes and lymphocytes; 2. The formative cells proper—their form, appearance and origin; 3. Multinuclear giant cells, their possible origin (a) by fusion, (b) by division of nucleus without division of cell body, their role and function; 4. Cells not distinguishable from mono-nuclear hyaline leucocytes—can they take direct part in forming new tissue? This question is still open (Metschnikoff, Arnold).

4. THE SYMPTOMS OF INFLAMMATION: Redness, swelling, heat, pain and functional disturbance. All these symptoms need not be present in all inflammations—inflammation is no longer a symptomatic term. What is the cause of the redness? The swelling? The heat? The pain? The functional disturbance? Which symptom is the most constant?

Several symptoms of intoxication and infection are often associated with inflammation, but inflammation is a local process. The origin of secondary or metastatic inflammations.

5. THE FORMS OF INFLAMMATION: Inflammation appears in many forms according to tissue involved, the nature of the cause and the intensity of its action. An etiological classification is not entirely feasible because same agent may cause different forms of inflammation.

Generally, the following are the essential causes:

a. *Traumatism:* trauma causes passive lesions, vaso-motor disturbances, and vascular changes while the chemical products of the dead cells attract leucocytes and the fixed cells proceed to repair the lost substance.

b. *Thermal influences* (heat and cold) cause reactive inflammatory phenomena in the tissues acted upon.

c. *Chemical* and *toxic substances:* strong chemicals cause necrosis followed by inflammatory reaction at the margin of the dead tissue. Many chemical and other substances are positively chemiotactic and cause chemical suppuration, e. g. mercury, turpentine, petroleum, dilute croton oil, calomel, digitorun, oil of cloves, etc. Some substances, e. g. cantharides, cause inflammation at places of elimination. Toxic substances produced by abnormal metabolism, e. g. in gout and anaemia may cause inflammatory changes.

d. *The infections:* the most important group because the lesions produced have a progressive tendency due to the development of new generations of bacteria and new doses of toxic substances. The routes by which infectious agents may enter the tissues.

The subclassification of infectious inflammations difficult because action of any given organism is not constant. The mutually modifying influences of the "resistance of the cells of the organism" and the virulence of the organisms are recognizable in all infectious inflammations, e. g. due to anthrax bacilli or the bacillus of tuberculosis. The tubercle bacillus may cause a long series of anatomical forms of tuberculous inflammation.

The anatomical forms of inflammation depend on the exudate, the amount of leucocytic emigration, the nature and extent of the changes in the fixed tissues. But the anatomical forms are not etiological entities.

1. *Exudative* inflammations—serous, fibrinous, hemorrhagic, and purulent with combination and transition forms. Exudation may form in tissue spaces on surface of the serous and mucous membranes (catarrh) as well as of the skin. Fibrinous exudate on a mucous membrane is known as a *croupous* inflammation, e. g. croupous pneumonia, croupous pharyngitis; these inflammations are characterized by removable fibrinous layers that form usually where epithelial lining has been destroyed.

Suppurative or *purulent inflammations* are oftenest caused by the pyogenic or pus microbes, that is, the *staphylococcus* and *streptococcus pyogenes* and also by other bacteria (facultative pus microbes) such as the typhoid bacillus, the colon bacterium, the micrococcus lanceolatus, the micrococcus tetragenus, the actinomyces etc. Chemical suppuration has only an indirect clinical interest.

The histogenesis of suppurative inflammation: invasion of microbes, necrosis, leucocytic accumulation, peptonification of dead tissue and of fibrin, pus (abscess cavity) and its appearance and characters, proliferation of fixed cells and formative tissue. The further fate of an abscess. Spreading, diffuse suppurative inflammation and surface suppurations.

2. *Diphtheric* inflammation is a surface inflammation, characterized by coagulation necrosis of inflamed tissue and exudate into an adherent layer. This inflammation is not synonymous with clinical disease diphtheria; it may be caused by many other organisms than the diphtheria bacillus. Observed especially on the mucous membranes of the pharynx, intestines, urinary bladder and vagina as well as on the skin. Appearance of necrotic layer.

3. *Productive* inflammation is either due to "formative stimulus" of inflammatory agent or an imperfect form of regenerative proliferation; distinction cannot always be carried out. Generally speaking the new tissue is formative or granulation tissue which either undergoes various degenerations or changes into cicatricial tissue. Example: (a) tuberculosis, syphilis, glanders, rhinosclerema, actinomycosis, blastomycosis, cutaneous protozoan processes (or the so-called infectious granulomata); (b) Condylomata and warts, osteophytes and hyperostosis; (c) the chronic interstitial inflammations (cirrhosis of liver, chronic interstitial neptritis)—here the essential changes are degeneration and necrobiosis of the specific cells with connective tissue proliferation and subsequent contraction and induration, but the exact pathogenesis is not yet clear although tendency is to look on parenchymatous degeneration and necrosis due to chronic intoxication and auto-intoxication as the primary change followed by hyperplasia of the stroma (Weigert, Ackermann and others); (d) replacement of necrotic, atrophic and useless material with fibrous tissue is another example

of productive changes of inflammatory nature intended to repair injury and remove useless substances—an imperfect form of healing observed in necroses, infarcts, thromboses, etc.

6. THE TERMINATION OF INFLAMMATION.—RESORPTION.—THE HEALING OF DEFECTS, OF ASEPTIC AND SUPPURATING WOUNDS.

Individual inflammations vary as to course and end; the reparative and counteractive tendencies of inflammation are not wholly and immediately victorious; necrosis, suppuration, accumulation of exudate are results that lead to resorption and repair.

Resorption *via* lymphatics and veins is accomplished by digestion, by phagocytosis on part of leucocytes, formative cells, and giant cells. Sequestration of necrotic material is the loosening of necrotic tissues from the healthy by digestion and phagocytosis, encapsulation and calcification of dead tissue.

Repair is accomplished by regeneration of fixed cells; an inferior species of regeneration is cicatrization. What is a scar? The adhesion of serous surfaces after inflammation; the replacement of necrotic and useless material with fibrous tissues; the encapsulation of unabsorbed masses.

Aseptic, incised wounds that heal with a minimum amount of granulation tissue, are said to heal by *primary union;* margins are first glued together by coagulation of serum in tissue spaces and between margins of wound; exposure to air, dead and maimed cells and fragments, the extravasted blood—all combine to produce positively chemiotatic substances; the leucocytes remove dead material and increase the pod of the fixed cells; formative cells and new vessels are produced, a homogeneous or fibrillated intercellular substance is secreted and the wound margins are definitively held together; epidermization; reproduction of papillary layer of skin; scar may or not be visible.

The healing of open wounds by means of visible granulation tissue, with or without infection, is called healing by *secondary union.*

a. Open, non-infected wound floor and margins become red and swollen, a small amount of greyish exudate forms on 2d day individual elements no longer visible, the margin and adjacent tissue are very red, the exudate is rich in leucocytes (mild inflammation); on 3d and 4th day "the granulating surface" is due to new vessels and embryonal tissues in the form of small red nodules, begins to be visible. This granulation tissue is markedly bactericidal, hence it forms a protective layer against microbic invasion. The defect becomes filled with fibroblasts, intercellular substance is produced, epithelium creeps over from the marginal cells, hypremia ceases, the papillary layer is not reproduced and a smooth, flat scar is the result, which may contract greatly.

b. In suppurating wounds the course of healing is disturbed by necrotic action of microbes; luxuriant growth of embryonal tissue without fibrilation may occur, especially when foreign bodies lie in the bottom; great accumulation of leucocytes takes place.

In most cases the growth of new tissue ceases when defect is closed. When formation of scar tissue passes beyond normal bounds and pays no heed to physiological laws, large masses of cicatricial tissue form that are known as *Keloids.*

CONCLUSION: The definitions and theories advanced from time to time of inflammation are very numerous and often contradictory. Of recent years it has become more and more evident that the only theory that allows one to grasp the full meaning of inflammation is the broad, biological conception which recognizes in inflammation an adaptive, protective and reparative tendency present in the reactions to injury among all animals. It is a large measure to Metschnikoff that pathology owes this broad teaching concerning the meaning or idea embodied in the natural phenomena of inflammation. It is probably not practicable to frame a concise definition of inflammation in which the exact part played by each factor in its various, but pathogenetically similar forms, can be fully indicated. The definition must be general; the moment phagocytosis, in any other single phenomenon is emphasized to the exclusion of others the notion of inflammation, its meaning and tendency is liable to become one-sided and obscured.

It has been pointed out in the preceding remarks that the inflammation brings into operation a number of means to counteract harmful agents, protect the organism at large and effect healing. The common mode of origin, the similarity of the changes though combined in differing propositions, and the evident tendency of the inflammatory processes to protect and repair, justify fully the teaching that inflammation is essentially an adaptive, protective and reparative process, a means of self-preservation. Yet it must not be forgotten that the mechanism of defense and preservation is far from perfect. The exudation may possess but little bactericidal power, the phagocytes may be powerless or the bacteria may multiply freely within them, as in tuberculosis, extensive destruction of tissue may occur before the virulence of the bacteria is mentioned; general infection and intoxication may cause death; the fixed cells may form imperfect material for repair or may multiply in excess; the resulting cicatricial tissue may lead to serious functional disturbances. The inflammatory reaction does not respect the relative importance of the tissues; thus violent inflammatory exudation may cause occlusion of the larynx, or, in the leptomenix, cerebral compression, and the fibrous tissue produced in repair after endocardial infection often produces valvular diseases; the disastrous consequences, which could be multiplied, cannot always be regarded as unavoidable in order that the inflammation could fulfill its primary purpose. Hence, inflammation, though biologically an adaptive and preservative process, still appears harmful to the physician, requiring the intervention of medical art. Taking all things into consideration it may be concluded that inflammation is the reaction of the tissues to local injuries calling forth protective and reparative measures, but it is an imperfect pathological adaptation that often leads to consequences that are dangerous per se and defeat its purpose.

The Corpuscle.

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Ruby Red and Black: Colors of Lake Forest University. Orange: Color of Rush Medical College.

OUR FRONTISPIECE.

As a frontispiece for this issue we present an excellent likeness of our recent president and professor, Dr. Edward L. Holmes, who has for so many years been connected with the college. The Corpuscle voices the sentiment of every student and alumnus of "Old Rush" in wishing him many more years of life, full of joys and blessings.

ANNOUNCEMENT.

We take pleasure in announcing that in the April Corpuscle we shall reproduce the likeness of that venerable man, J. Adams Allen, or "Uncle Allen" as he was called, together with an interesting paper, "A Few Words Concerning 'Uncle Allen,'" by Jno. R. Hamill, M. D., Secretary of the Class of '87.

We note the death, during September, of Prof. Edmund Dreschel, head of the departments of Physiological Chemistry and Pharmacology, in the University of Bonn. Dr. Dreschel was at the Naples Zoological Station studying the chemistry of the invertebrates. Previous to going to Bonn he was assistant professor at Leipsic. He was an important contributor to our knowledge of physiological chemistry.

The death is also announced of Dr. Holmegren, Professor of Physiology at the University of Upsala. Dr. Holmegren was widely known through his investigations in color blindness and by his test of the color sense by means of wools of various colors. He established the first School of Physiology in Sweden.

The Quadrangle Club, an association composed of the professors and instructors of the University of Chicago, gave a reception on Friday evening, Feb. 4th, to the faculty of Rush and other affiliated institutions of the University. The reception was held in the Haskell Oriental Museum, the temporary quarters of the club. President Harper and Prof. Small, with their wives, received for the University of Chicago, while Rush was represented in receiving by Profs. Lyman and Etheridge, with their wives. and by Prof. Ingals and daughter. About thirty professors and instructors from Rush were present.

The recent researches of Gosio and Emmerling throw light on the manner in which arsenic is liberated from its compounds, and in coloring wall papers. It was found that certain molds have the property of decomposing these compounds with the liberation of arsenic in a volatile combination and highly toxic in character.

Our freshman chemists will be interested to know that recent experiments on the relative antiseptic properities of some of the inorganic salts, place silver nitrate in the same class with corrosive sublimate regards actual antiseptic power. Copper sulphate follows close on, and is succeeded by zinc sulphate and cadmium sulphate in order. Weak solutions of the nitrate of lead delay decay, while lead sulphide of the same strength, one per cent, prevents decay. The fluorides are weak antiseptics.

HEARD ABOUT COLLEGE.

Sing a song of "fly cops"
Bringing on a fight,
Four and twenty students
"Pinched" that very night;
And when the Court was opened
The boys they didn't sing,
For wasn't it a hopeless task
To go against the "ring?"

WANTED.—The supply of the CORPUSCLE for January, 1897, having been entirely exhausted, a number of copies of that issue are desired to complete files for binding. Anyone who will sell his CORPUSCLE of this date, may mail same to the Business Manager, 93 Flournoy street, Chicago, with name and address, and he will pay 15 cents each for such copies.

Professor Bevans' lectures in sophomore and freshman anatomy were filled during February by Drs. Shaw and Parker respectively.

During the first of the month, Professor Senn returned to his work, after a short rest and was greeted at his clinics by the usual large audiences.

Laboratory work in physiology was suspended for a short time in February, owing to the illness of Dr. Linnell.

The class of 1901 is fortunate in its work in dissection, in having to work with only four men at a table. The usual number is eight.

Prof. H.: In what ways does hemorrhage occurr?

Dr. Griffin of Iowa: Hemorrhage occurs by rhexis and by diabetes (*diapedesis*).

Dr. Abernethy was a notoriously laconic man. One day a woman patient came to him with a burned hand. Showing him the hand she said: "A burn." "A poultice," replied the doctor. Next day she called and said: "Better." "Repeat," said the doctor. In a week she made her last call and her speech was lengthened to three words. "Well, your fee?" "Nothing," answered the physician, "you are the most sensible woman I ever met."

Prof. "Pop." Rogers is said to have out his shingle as a hypnotist and will sometime in the near future gratify his admirers by conducting a large and lucrative seance. Slee—p.

Where is "Organization" Weeks?

The class of 1901 held a meeting on Friday, Feb. 18, in the lower lecture hall, for the purpose of organization. The following officers were elected: President, W. Murray; secretary, C. M. Gleason; treasurer, G. S. Adams. Each division of the class will independently elect a vice-president and a sergeant-at-arms at some later date.

Prof. LeCount's name appeared on the program of the Chicago Pathological Society, Feb. 14, for a paper on "True Lymphoma."

Prof. Haines will accept thanks from the sophomores for reprints of his recent article on "An Improved Method of Detecting Casts in the Urine," which he presented to the members of the class at their last laboratory exercise.

Dr. Witte, who located on the North Side on completing his interneship in the Presbyterian Hospital, has accepted an advantageous offer from Milwaukee.

Dr. W. F. Robinson has been absent from his clinical duties in dermatology for some days on account of illness.

Dr. H. S. Smith completed his Presbyterian Hospital interneship February 1, and is now deciding on a permanent location.

Dr. Whiting is still on sick-leave at Alma Sanitarium.

At recent exercises in practical therapeutics the workings of the Betz Hot Air Bath was demonstrated. The classes considered this one of the most practical exercises yet given in that course. The bath has been presented to the college for use in that department, by the makers, F. A. Betz & Co., Chicago.

Sheldon says it wasn't pediculosis.

Dr. Freer: "In whooping cough how much would you expect the patient to cough up?"

Student: "One dollar and a half."

George Thilo and nitrogen monoxide do not seem to be compatible. At a meeting of the Junior class in practical therapeutics Thilo tried to "do up" the whole class after taking a few "whiffs" of gas.

Several interesting articles have been left out for want of space. They will appear in the April number.

"This, gentlemen, is used in diseased affections."—Freshmen Chemistry.

The Beau Brummel of '99, J. E. Stanton.

During the year 1897 there were introduced into the realm of materia medica 268 new remedies.

A detailed account of the trouble between the "Rush" and "C. C. D. S." students and the police on February 8, seems unnecessary, as the daily papers did their share to keep one posted. That the police in some cases overstepped their bounds is evident from the final outcome of the affair. We very much regret its occurrence, and also the unjustifiable attitude of the police toward all the students of the "Latin Quarter." Many were arrested who took no part in the affair. In fact, so blinded were the officers to the sense of justice that that even passers-by were in danger of being "jerked up," and in one or two cases it was only after much persuasion that they were allowed to go their way in peace. The officers seemed desirous of filling the wagons and occasionally we would hear "one more man here" or "two more here" as the case might be.

The affair was not without its ludicrous side. At the station house where the reports come in from the various boxes, "All right, Mike"—"All right, Pat"—"All right, Tim," etc. we would hear—"Brrrr—!" and then the answer would go back, Once the answer went out, "All right, *Charlie*" and 17 students fainted from surprise. (?) Twice the order went out to "*stay at Harrison and Wood until further orders.*"

We understand that the outcome of the affair was the imposition of a fine of $10 for the crowd. This, on the supposition that there were ten guilty men in the crowd, each being fined $1.

At the beginning it looked as though justice was an unknown thing in the so-called police-justice courts, and we are not sure that the end would have been as it is had not our professors and fellow-students taken so active an interest in the matter. That students in general and medical students especially, sustain a reputation which they do not merit is a condition which to say the least is unjust.

On Tuesday evening, February 22, the following program was rendered at the college amphitheatre:

MUSICAL. PART 1.

1. Vocal, The Old Canoe (By request).
Rush Quartette { E. F. Jones, 1st tenor. H. Gee, 1st basso.
R. Hardy, 2d tenor. W. Phelps, 2d basso.

2. Duet, Selected Mandolin and Guitar
A. S. McCard and Homer Gee.

3. Vocal, Night Time, *Van de Water*
Estelle L. Russell.

4. Violin, Melodies. *Sarasate*
Winifred Amy Townsend.

5. Vocal, Selected.
A. W. Dowd.

6. Piano, Militaire March *Toussig-Schubert*
H. V. Pribyl.

7. String Quartette, Selected.
Senior Class.

ATHLETIC. PART II.

1. Bag Punching..D. F. Grasse
2. Feats of Swordsmanship................................William Craig
3, Sparring..Barnesly-Dohrm
4. Wrestling..Cory-Stevenson
5. Sparring..Grasse-Lowenthal
6. Basket Ball..............................Rush vs. West Side "Y."

The entertainment was a social success but the boys lacked the support of the students which was necessary to make a financial success of it.

ATHLETICS.

This is the first winter that Rush has been represented by a Basket-Ball team. Physical Instructor Grasse, who was Captain of the University of Minnesota team for two years, was instrumental in bringing out basket ball here and in getting the men together. Considering the fact that it was a new venture in athletics at Rush, and that the material was both green and scanty, our colors have been well supported. As the season progressed the men rapidly learned the game, and at present are playing a fast, clean game. With the experience of a year and proper support, the prospects are bright for an excellent team in the winter of '99. The team is registered in the Amateur Athletic Union, and at present is made up of the following men: Center, Stewart; forwards, Grasse, Stevenson and Sloan; guards, Hagler, Farr, Trotter and Evans. Five games have been played since the first of the year. Of these, the games with the West Side Y. M. C. A., Hull House and Notre Dame were defeated with the respective scores of 5-4; 14-5 and 20-15. The games with the Scotch Athletic Club and Orioles were won with scores of 11-5 and 23-14 respectively.

At a meeting of the Athletic Association, held on January 25th, J. L. Stewart, '99, was elected manager of the baseball nine for the coming season in place of F. Hollenback, '98, resigned. It was suggested that the Association adopt a college emblem, and Grasse and Hollenback were instructed to work one up. At the next meeting they will suggest the adoption of an emblem such as is now worn by the basket-ball team. It consists of the Rush colors made up in a target-like figure, the black forming the outer band or circle, the maroon the inner and the center being made up of the orange and a arge R.

Alumni Department.

JAMES B. HERRICK, A. B., M. D., EDITOR.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to The CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Chicago.

We are pleased to be informed by our secretary that the Association with the increased dues is nearly as large as usual.

A. A. Anderson, '81, is at Des Moines, Iowa. He signs himself "Yours for Old Rush."

One of the loyal sons of Rush is Dr. M. W. Scott, '77, of Emerado, N. Dak. Dr. Scott has long been the county physician and is in charge of the County Hospital at that place.

Dr. Frank H. Borth, '85, is going to Alaska and hopes to make a "Klondyke" fortune. He is at the head of the Alaska Sanitary Company whose object it is to establish hospitals at various points in the Klondyke.

W. L. Curtis of South Omaha is assistant to the Chair of Anatomy in the Omaha Medical College. He is also Professor of Anatomy in the Omaha Dental College.

J. K. Kutnewsky, '82, who is at Redfield, South Dakota, was in the city a few days ago. He expressed surprise at the rapid improvements that have taken place in Rush since he was here and was especially pleased at the work he saw done in the laboratories.

We have received cards announcing the marriage of Dr. H. O. Caswell, '97 to Miss Winafred Sheldon. The CORPUSCLE offers congratulations and knows that the excellent start Dr, Caswell has made at Fort Atkinson, Wisconsin, will not suffer any check because of his marriage. According to the symposium on marriage published a year of two ago in our columns, the doctor ought to be not only a happier, but a more successful man.

OBITUARY.

From a Fort Atkinson paper we extract the following:—

Dr. Alvin Strong Dead:—On Saturday last our people were deeply pained by the news of the sudden death of Alvin W. Strong. He was the oldest and only remaining son of Mr. and Mrs. O. D. Strong. He was born in Munsville, N. Y., Sept. 5th, 1869. He graduated from the Fort Atkinson High School with the class of '89. He spent one year in the state university at Madison and then took the course at Rush Medical College in Chicago, graduating there May last. Immediately on completeing his school work he suffered an attack of pleurisy which left his lungs in a weakened condition, and it was thought best for him to spend the winter in the milder climate of California. Accordingly, in the latter part of October he went to San Diego where he seemed to be gaining in strength until about three weeks ago when typhoid fever developed, and quickly did its work. The deceased was unusually popular with those who knew him. Dr. Strong was a young man of noble character. He had bright prospects for a happy married life and a successful professional career. He was cheerful in disappointment and uncomplaining in suffering. So anxious was he to avoid giving pain to those he loved that he concealed from them wnat he knew to be the evidences of fatal disease.

INFORMATION WANTED. ILLINOIS STATE BOARD OF HEALTH.

Springfield, Ill., Jan. 25. 1898.

To the Editor:—The 19th and 20th Annual Reports of this Board to be published very shortly, will contain an official register of all licensed physicians practicing in Illinois. As the reports are sent to every state in the union and are largely called for by professional and business men interested, I desire that the register be as correct as possible, hence would ask that you kindly accord me space in your journal to request that every physician who wishes to have his name and address correctly reported, will send the information to me on postal card at once, mentioning number and date of certificate.

In over 70 per cent. of cases, the addresses on file in this office are those originally given when the certificates were issued, and as no additional information has been furnished this office either by the county clerks or the physicians concerned, many physicians are reported in towns from which they moved several years ago.

J. A. Egan, M. D., Secretary.

WITH OUR EXCHANGES.

An elegant half-tone of Prof. Senn appeared in the *Medical Standard*, Chicago, in the January issue.

"The Treatment of Suppurating Fistulous Tracts," by E. J. Senn, appears in the *N. Y. Medical Journal*, December 25, 1897.

The *Ophthalmic Record* for January contains an article on "Wolff's Operations for Congenital Potasis—A Report" by Dr. Hotz.

In the *British Medical Journal* for Dec. 25, 1897, (page 1855) is briefly reported a case of "Gumma of the Pitnitary Body"in a woman aged 47 years. The author finds but three similar cases recorded in medical literature.

Dr. E. R. Larned, '97, of Joliet, recently had an article on "Excision of Tonsils for Hypertrophy" in the *Journal of the American Medical Association*. An abstract appears in the *Cleveland Medical Gazette* for December.

"What Conditions Influence the Course of Infantiie Syphilis" by James Nevins Hyde was published in the *Medical News* of Dec. 4, 1887.

The *Dental Cosmos* for Dec. 1897 has an article by Prof. Brophy entitled "A Case of Antral Disease Involving the Frontal Sinus.

The "Case of Ainhum" reported by Dr. Herrick in the October CORPUSCLE, was published at length in the *Philadelphia Medical Journal* of February 5.

The *Midland Monthly* for February contains: "The Theories of Octave Thanet and other Western Realists;" "Some Ladies of the New Administration;" "Three Singers," by Walt Whitman; another installment of "Grant's Life in the West;" stories, poems, etc. The excellently illustrated paper on Cornell College, Mount Vernon, Iowa. will be of especial interest to college men and women.

The *Sanitarian* for February contains: "Preventive Medicine in Pennsylvania;" "Adulteration of Beer Grains;" "Watered Milk;" "How to Heat a Village House;" "History of tne Recent Epidemic of Yellow Fever;" "Yellow Fever Observations by an Octogenarian," etc.

Prof. Nicholas Senn has been spending some time in this city and in Louisiana, enjoying his needed and well-deserved vacation. Dr. Senn occupies himself mostly in hunting various forms of game afforded in the different sections of the state, and is quite enthusiatic over the sport, especially over the facilities offered.—*New Orleans Med. and Surg. Jour.*, February.

At the Chicago Medical Society, January 19, in speaking of the relation of general medicine to general surgery and gynecology, Dr. Bevan insisted that the ideal surgeon was first a general medical man, the ideal gynecologist first a general practitioner, then a general surgeon and finally a specialized surgeon or gynecologist..

In "Winter Work With a Camera," February *Outing* presents some charming snow scenes and many valuable suggestions of interest to the amateur photographer. "A Week With the Singhalese" is no less interesting, while the first installment of "From Chicago to San Francisco Awheel," is replete with interesting incidents. Other articles are: "Snipe-Shooting in the Hammock Lands, Florida;" "Australian Aboriginal Sports and Woodcraft;" "Modern Ice-Yachting;" "Fox Hunting in the South;" "Self-Defence with a Cane," stories, poems and the usual departments.

Rush men will be interested in the following articles by Rush men which appeared in the *Journal of the American Medical Association* during January; "Subcutaneous Injuries of Soft Parts," by Dr. J. E. Luckey, '97, awarded the J. W. Freer second prize, 1897;" "The Treatment of the Malposition of the Lid Border in Trachoma," by Prof. Hotz; "Some Observations on the Treatment of Tabes Dorsalis," by Prof. Brower; "Gummata of the Heart in a Case of Congenital Syphilis." by Prof. Le Count; "An Improved Method of Detecting Casts in the Urine," by Prof. Haines and Dr. J. E. Skinner.

On Dec. 15, 1897, Dr. N. Senn presented some "Cases of Plastic Surgery" before the Chicago Medical Society. The paper has been printed in the *Chicago Medical Recorder* for January and covers "Primary Maglinant Tumor of the Eyeball;" "Sarcoma of the Breast;" "Malignant Tumor of the Upper Jaw;" Plastic Operation for Loss of Skin Implicating Scrotum, Penis and Pubis." The Doctor also has a paper on "A New Incision for Arthrectomy, Resection and Irreducible Dislocation of the Shoulder-joint," in the *Nashville Jour. of Med. and*

Surg. for January, while the *Hot Springs Med. Jour.* (January) prints his "Lumbar Nephropexy Without Suturing" which appears in the *Journal of the American Medical Association*, Dec. 11, 1897, and the *Pacific Medical Journal* for December contained his "Treatment of Chronic Empyema of the Antrum of Highmore by Temporary Osteoplastic Resection of the Anterior Antral Wall.

We quote the following from the *Peoria Medical Journal*, January, 1898:—"On the evening of the 3rd inst., at the regular quarterly convocation of the Chicago University the president, Dr. Harper, formally announced the affiiliation of Rush Medical College with that institution. This unquestionably means the ultimate organic unity of the two greatest representatives of learning in their lines in the west. We feel in a sense, therefore, like congratulating both. The union, even such as it is now represented to be, means further advancement in the required standard of preliminary education, and we hope it will be far-reaching in its influence on the elevation of the same in other scools."

NASAL DISEASE AND PULMONARY TUBERCULOSIS:—The *Laryngoscope*, November. says of "The Relation of Nasal Disease to Pulmonary Tuberculosis," a paper presented at the British Medical Association, by Dr. E. Fletcher Ingals; "This was an elaborate statistical inquiry based on more than 14,000 cases. The results seem to show that instead of predisposing to pulmonary tuberculosis, nasal catarrh, if it has any influence, appears to prevent it. This antagonism was not surprising in view of the fact of the occurrence of hyperemic conditions in nasal disease, and of profound anemia in tuberculosis. The only possible exception may be found in atrophic rhinitis, though in this disease the occurrence of tuberculosis may only be a coincident effect of the general lowering of nutrition and health.

THE TREATMENT OF SUPPURATING FISTULAE.—The primary dressing should not be disturbed for four or five days, when it is removed and repeated if necessary. Nitrate of silver, or other caustic should not be used as the granulations are only superficially destroyed, having a necrotic area, which should be the object to be obviated. If the granulations are persistently sluggish, it is well to occasionally pack the wound with gauze saturated with Balsam of Peru, as this agent stimulates the regenerative capacity of embryonal cells without impairing the vitality of surrounding tissues. In my hands most obstinate fistulae have yielded under the treatment suggested, when previous antiseptic irrigation over estimated periods of time proved of no value.—Dr. E. J. Senn, before the Miss. Valley Med. Association, reported in *N. C. Med. Jour.*

An elegant half-tone of Professor Brower appeared in the *Medico-Legal Journal* for December with other "distinguished members of the Medico-Legal Society."

The busy man will find *Public Opinion* a weekly medium of great value, for it gives him the opinion expressed by the leading papers, from leading cities, on all the leading topics of the week, with abstracts from articles on science, religion, etc., presenting a consensus of views one could not otherwise get without extensive reading.

The physician, as any other professional man, tends to ose sight of things outside his own specialty but by casual reading, well chosen, one may be well posted on other subjects. The *Living Age* enables one to do this most conveniently. A few only of the papers presented in the February numbers can be enumerated, but serve to show the wide field thus covered. "The Peasant of Ancient Greece," "The Drinking Habits of Animals," "International Inebriety," "The Pleona of Labor," "The Degradation of Dreyfus," "A Walk Through Deserted London," "The Criminal Tramp," "Creole Proverbs," "Pilgrims and Emigrants," "Eye Language," "On Leisure, Genius, Books and Reading."

MOSQUITOES FED ON MALARIAL BLOOD.—*The British Medical Journal* for Dec. 1897 (p. 1786) contains a report "On Some Peculiar Pigmented Cells Found in Two Mosquitos Fed on Malarial Blood." These cells were found only in a peculiar species of mosquito, a large brown species, and were not found in the brindled or grey varieties of the insect. "Eight of them were fed on a patient whose blood contained fair to few crescents (and also filariae)." Of these, four only were examined, two giving negative results, and two showing cells containing granules of black pigment absolutely identical in appearance with the well-known and characteristic pigment of the parasite of malaria (large quartans and crescent-derived spheres). The two mosquitoes showing these were killed on the fourth and fifth day, respectively, after being fed; one contained ten to twenty and the last one twenty-one of these cells. The author sums up his investigation as follows: "The cells appear to be very exceptional; they have as yet been found only in a single species of mosquito fed on malarial blood; they seem to grow between the fourth and fifth day and they contain the characteristic pigment of malaria."

BOOK REVIEWS.

MANUAL OF PATHOLOGY. By W. M. LATE COPLIN, M. D., Philadelphia: P. Blakiston, Son & Company. 1897.

This book as the name would indicate is intended for use in the laboratory, and not as a reference book for the student It includes the fundamentals of bacteriology, post-mortem technic and methods of pathologic research. It is divided into three parts.

Part I. treats of the technic in the study of gross and microscopic specimens from the dead tissues and of the microscopic examination of the urine, sputum and blood. The chapters on the urine, sputum, and blood are especially well illustrated, affording the student a means of comparison and rendering his examination of these tissues comparatively easy.

Part II. treats of the subject of general pathology, taking up the definitions of the various morbid processes, and then in turn discussing the various forms of degeneration, necroses, circulatory disturbances, etc.

Part III. discusses the subject of special pathology in a brief but clear manner.

At the end of each chapter is a list of questions, more or less comprehensive, which serve as an aid to the student in reviewing the subject treated of in that chapter.

The book contains about six hundred pages of reading matter and two hundred and sixty-eight illustrations, many of them being original. It is a second edition of the author's "Lectures on Pathology" and will serve as a companion to the student in the laboratory.

PRINCIPLES OF BACTERIOLOGY. By A. C. ABBOTT, M. D., Fourth Edition. Philadelphia and New York: Lea Brothers and Co. 1897.

That Abbott's Bacteriology is the leading, and in fact, the sole text-book in nine-tenths of the medical colleges in this entire country is positive evidence that it is a work of much merit. We welcome this new edition which has been thoroughly revised and is now one of the most complete text-books on Bacteriology.

The work contains about 530 pages of reading matter and 106 illustrations, of which 19 are colored. It is most excellently arranged, the first thirteen chapters treating of the general subject of bacteriology, preceded by an introduction in which is given a brief history of the birth and earlier studies of modern bacteriology.

The remaining chapters are given to the discussion of the "application of the methods of bacteriology, with descriptions of some of the more important species.

At the end is an appendix containing a complete list of apparatus and materials required in the beginner's bacteriological laboratory.

As a text-book for the use of the beginner, whether student or practitioner, "Abbott" stands at the head, and the new fourth edition should be substituted for the older editions in our libraries.

HUGH WYNNE, FREE QUAKER. By S. WEIR MITCHELL, M. D., LL. D. (Harvard and Edinburgh); 5mo. volumes. New York: The Century Company. 1897.

We are glad to call the attention of the profession to this late work of Dr. Mitchell. In it he pictures the daily life of the Philadelphia Quakers. He has interwoven with this historical facts, using names familiar to us in history. One finds a certain charm when reading this story, in being able to connect the principle characters with their subsequent history, with which he is familiar.

Written by a physician who has previously scored successes in the world of letters, it is a book which should not fail to interest the medical man, especially as in it are combined the glimpses of the early Quaker life and historical facts in such a manner as to make its reading not only pleasurable, but instructive. We commend it to the general public and to the profession especially. It is a work which should find an honored place in every doctor's library.

WILLIAM HARVEY. By D'Arcy Power, F. S. A., F. R. C. S., Eng. Cloth, Pp. 283. New York: Longmans, Green & Co., 1897.

This is the second volume of the "Masters of Medicine Series," now being issued by Longmans, Green & Co., a series of great interest and practical value to the practitioner and laymen alike, presenting in popular and interesting form lives of the men who have done most in the interest of medical science. Other volumes already issued are "John Hunter," and "Edward Jenner." The story of the life and work of William Harvey, the discoverer of the circulation of the blood, is here told in a most fascinating manner. The author has not attempted so much to add new facts as "to give a picture of the man and to explain in his own words, for they are always simple, racey, and untechnical, the discovery which has placed him in the forefront of the Masters of Medicine."

The various chapters treat. "Harvey's Lineage;" "Early Life;" "The Lumlein Lectures;" "The Zenith;" "Harvey's Later Years;" "Harvey's Death, Burial and Eulogy;" "Harvey's Anatomical Works;" "The Treatment on Development."

This volume with others of the series should be in every library and will do much to popularize and give credit to the great works of these men.

RUBAIYAT OF DOC SIFERS. By James Whitcomb Riley. Illustrated by C. M. Relyea. New York: The Century Company. 1897.

James Whitcomb Riley needs no introduction to the public. This poem, which so truly depicts the life of an ideal country doctor, will be read by the medical man with a great deal of interest. If the love and esteem for the good old "country doctor" has been waning in late years, "Doc Sifers" will serve to renew and strengthen them. The verses of the poem are interspersed with full page illustrations, making a beautiful book, which will be welcomed wherever it may find a place. There is not a verse but that contains some trace of the good character which Riley gives to this rural doctor:

"And I says, 'Doc, you 'pear so spry, jes write me that recei't
You have fer bein' *happy* by—fer that 'u'd shorely beat
Your *medicine*!' says I. And quick as s'cat! Doc turned and writ
And handed me: 'Go he'p the sick, and put your heart in it,' "

DISEASES OF THE STOMACH, THEIR SPECIAL PATHOLOGY, DIAGNOSIS AND TREATMENT, WITH SECTION ON ANATOMY, PHYSIOLOGY, ANALYSIS OF STOMACH CONTENTS, DIETETICS, SURGERY OF THE STOMACH, ETC., IN THREE PARTS. By JOHN C. HEMMETER, M. D., Ph. D., with many original illustrations, a number of which are in color, and a lithograph frontispiece. Pp. 788. Philadelphia: P. Blakiston, Son & Co. 1897. Price $6.

That all modern sciences tend toward specialization is a well established fact. In this work the author has furnished the general practitioner a source through which he can acquaint himself with the advances that have been made in this important branch of medicine in recent years. Whether a specialist on this subject or a general practitioner, the medical man can read and study to his own advantage this work. For the specialist it will serve as a text-book and for the general practitioner, as a book of reference. It is very comprehensive and the contents are arranged systematically. In looking over the book we note the numerous excellent illustrations, many of them original, and especially the lithograph frontispiece representing a vertical section through the normal gastric mucosa.

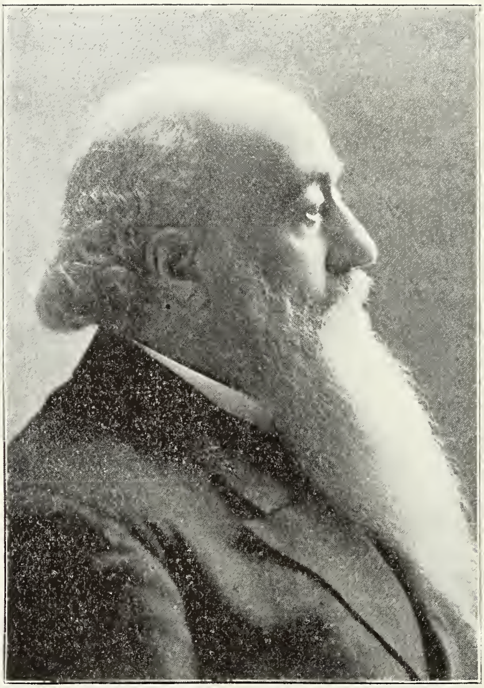
The book is divided into three parts. Part I. deals with the anatomy and physiology of the digestive organs; methods and technics of diagnosis.

Part II. discusses the therapy and materia medica of stomach diseases.

Part III. has for its subject, "The Gastric Clinic," occupying about one-half the book. Separate chapters in this part discuss acute gastritis, chronic gastritis, ulcer of the stomach, malignant tumors of the stomach, etc., each chapter being subdivided and discussing the various forms of the inflammatory processes.

At the end of the book the author inserts a "Synopsis of Schemes for Examining Stomach Patients at the Maryland General Hospital," which may readily be adapted to use in any like institution. After this comes a "List of Authors," with the subjects treated of by each and the page references. At various places throughout the work are inserted references to the literature on the different subjects.

Everything considered, it is an exhaustive treatise on diseases of the stomach. Considering the importance to which this branch of medicine has attained especially in recent years, such a work should be an essential feature in our libraries.



THE LATE PROF. J. ADAMS ALLEN.

The Corpuscle.

Rush Medical College, Chicago, Ill.

Medical Department, Lake Forest University.

Vol. VII. APRIL, 1898. No. 7.

A FEW WORDS CONCERNING "UNCLE" ALLEN.

BY JNO. R. HAMILL, M. D., SECRETARY OF CLASS OF '87.

In a retrospective glance at the history of our illustrious college, "Rush," we view with pride the long list of great and honored men who have borne the appellation of professor.

My heart throbs in admiration of one, who so beautifully adorned one of its historic pages, a man who stood pre-eminent among his peers, surpassed by none and equaled by but a few. He possessed all the qualities which make the perfect professor. His wise general principles and philosophical researches are so instilled in every alumnus who possessed the intelligence of comprehension capable of digesting the material for thought as furnished by this profound thinker and philosopher, that they will be handed down for all time to come. "Uncle" Allen often remarked that while he could furnish the material for thought he could not furnish the brains.

Nowhere in this country or abroad can these wise general principles be duplicated. That the medical world has sustained a loss in the demise of this great reasoner and teacher which one decade will not replace seems to me to be true.

I have had the pleasure and privilege of listening to lectures delivered on similar subjects in the East and in the West and have returned with the same verdict, "few equal, none superior." This man possessed an intelligence capable of adapting itself to his hearers and his lectures were interspersed with occasional flashes of humor which made them most interesting.

I admired his rich flow of language. He was possessed of a voice both sonorous and flexible, his gestures were noble and significant, "something sublime emanated from the man, physically grand and beautiful, something at once imposing, captivating and sympathetic, great knowledge and a great desire to impart it." He loved the student. He was modest, yet firm. When he was presented by the class of '87 with a Mexican Onyx tripod upon which was described the following:

"We'll remember these three while we practice the art,
Condition of the blood, the nerve and the part," he arose, and in voice mild and impressive replied, "In the language of Milton, you've got me." And we had, too, for he was overcome as we had never seen him before. This great philosopher was none other than J. Adams Allen, "our Uncle."

I was an attentive listenter to "Uncle's" lectures and took copious notes. Thinking that perhaps I can extract from my notes some things which will bring pleasant recollections to those who admired him and yet have no notes, and which will benefit the later students who will never have an opportunity to hear "Uncle," I have concluded to reproduce a portion of his first lecture of a series.

"The science of medicine should be studied as any other science, and if it will not stand the test it should be discarded. The collateral branches do not comprise the science of medicine. Mere acquaintance with facts is not all that is necessary, although the facts cannot be set aside. Medicine cannot be tested by a collection of numbers, numbers establish nothing; that which connects the numbers helps to establish truths. Experience resolves itself into nothing but establishing truths by numbers and is therefore but the law of numbers.

A great many doctors establish truths by numbers by saying that they give a certain medicine for a definite period and get a certain result, and thus they establish as a truth the fact that the patient got well as a result of the treatment. This establishes no relation between the diseased structure and the remedy applied, and is therefore but the law of numbers. The patient might have recovered without any medicine in each and every case.

The science of medicine has improved not by accretion, but by excision, that is, cutting away. When you commence to study medicine, get down to the simplicity of affairs. You must show the relation between the diseased structure and the remedy applied, but that is not all. You must show the relation between the above and the result obtained, otherwise you are trying to establish truths by numbers and your conclusions are mere rubbish. When we do thus establish the relation between diseased structure, remedy applied and result obtained, we are but in the rudiments of the science of medicine.

Every part of the human body during life represents a certain force; hence I define life as the 'manifestation of force in an organized structure.' A particular part of the body in health manifests a certain force and in disease manifests an altered or changed force, hence we conclude that a 'particular manifestation of force depends upon the material structure through which the force is manifested. Change the structure and you change the manifestation of force.'

The human body consists of an aggregation of cells constantly passing through the stages of formation, maturity and decay, and during each, save perhaps the latter part of the third stage, a certain force is manifested, called the vital force. If for any reason we have a deviation from these three stages, we have a consequent change in the manifestation of force. Moreover, if there is the slightest change in the material structure in any one of the three stages we have a change in the manifestations of force. This deviation is the result of a diseased structure, hence I define disease as the 'perversion of the normal structure of a part,' the manifestation of force also being perverted.

The phenomenon of manifestation of force occurs only in an organized structure having a definite arrangement of its particles, and is imperceptible even with the aid of the most powerful microscopic lens. All material is full of force and because it does not move some people believe that force does not exist. 'Change the atoms of matter and you change the manifestation of force.' Without this change in the material structure, the force manifested remains unchanged."

I have here reproduced a portion of "Uncle's" first lecture, and I sincerely hope that I have not presumed too much and that the lines I have here written concerning "Unlce" and his first lecture of a series delivered at Rush may bring to those of our alumni who knew and heard him pleasant recollections. If I have accomplished as much as this, I shall feel amply repaid for my effort.

382 S. Kedzie Ave., Chicago.

DRY HEAT IN THERAPEUTICS.

By J. A. Patton, B. S., M. D.

Heat was one the first therapeutic agents used, especially for the relief of pain of almost any character, and the methods of its application have been many and various.

The applications of heat are classified as "Moist" and "Dry," and we find that the patient will stand a much higher temperature if dry heat is used, than if we use moist heat as the former does not produce so much local irritation.

Dry heat produces first a sensation of warmth or a slight rise in temperature; then a redness of the skin due to dilatation of the superficial blood vessels, and the larger amount of blood in these dilated vessels becoming heated, transfers heat to all the tissues with which it comes in contact and thus reaches the heart, which it stimulates, thereby increasing the rate and force of the heart's action, and also the respiratory act.

This marked increase in the heart's action brings on raised arterial tension notwithstanding the dilatation of the arterioles, and we have more or less conjestion produced throughout the entire capillary system, and especially in the regions to which the heat is applied and in the kidneys.

The skin becomes bathed in perspiration and the evaporation of this water aids in maintaining the normal temperature of the body which is therefore but slightly if at all increased; while moist heat, by preventing this surface evaporation, produces a blister or a burn at a much lower temperature.

We find the kidney secretion stimulated, giving an increased amount of the watery portions, and also a marked increase of chlorides and urea. These increased amounts must be due to the stimulation of tissue metabolism in general by the stimulated incubation, and locally by the increase of osmosis due to the dilated and conjested arterioles.

Care must be exercised in applying heat to those suffering from fatty or fibroid degenerations of the heart or arteries, to the aged, etc., because of the marked stimulation of the heart's rate and force. Usually we have applied dry heat by woolen cloths, plates, irons, bricks, bags of ashes, hops, salt or water, etc., and their efforts depend largely upon the amount of heat they contain. These applications require frequent changing, as there is a gradual loss of heat, therefore a method of maintaining a steady temperature or of increasing or decreasing the temperature gradually would present advantages that would materially increase the range of its application.

One of the latest as well as one of the best methods for the application of dry heat is by use of the "*Betz Dry Hot Air*" apparatus, as with it we can apply perfectly dry heat to almost all surfaces of the body, and particularly to the joints. The "Betz" apparatus enables us to use any desired temperature up to 450° F. and to maintain the desired temperature indefinitely, or to gradually raise or lower the degree of heat at the will of the operator, thus answering the important requisites of a steady source of heat, gradual increase or decrease of the heat, ability to maintain a constant heat and a perfectly dry heat.

Full descriptions of the structure, methods of using this ayparatus, etc., can be obtained by applying to the manufacturer, Frank S. Betz, 80 State St., Chicago, Ill., as shown by the advertising pages of this journal. Use of this apparatus has demonstrated its value in the treatment of acute sprains, in loosening adhesions and softening contractions seen in old sprains of athletics, where a few treatments have enabled the patient to freely use the joint that had suffered the acute sprain, or had given much more freedom in the use of the joint than the patient had had for several years, hence it is of especial value as an adjunct to gymnasiums or athletic training. Properly applied massage is a useful adjunct in the treatment of these conditions. Care should be exercised that the part does not become chilled after a treatment. We find that from 250° to 350° F. is readily borne without any special signs of irritation by the patient.

For readiness and thoroughness of application of dry heat this apparatus is undoubtedly one of the best if not the best.

The annual convention of the State Medical Society, which will be held in Galesburg on May 17th ane 18th promises to be one of the best and most important ever held.

RESUME IN THE FORM OF OUTLINES OF PROF. HEKTOEN'S LECTURES ON GENERAL PATHOLOGY, FOR THE GUIDANCE OF BEGINNERS.

(Continued from page 213.)

BACTERIOLOGY: LECTURE I.

By Dr. Geo. H. Weaver.

BACTERIA AS CAUSES OF DISEASE.

A. Classification according to ability to grow in living tissue.

I. Saprophytes: i.e.,—non-infectious bacteria.
  1. Non-toxic bacteria.
  2. Toxic bacteria.

II. Parsites: i.e.,—infectious bacteria.
  1. Local.
    a. Slight growth.
    b. Abundant growth in the depth of the tissue.
    c. Abundant growth in the superficial tissues.
  2. General.
    a. By local extension.
    b. By metastatic extension, (pyaemia).
    c. By septicaemic extension.

Obligate and Facultative Parsites.

Distinction between intoxication, infection and contagion.

B. Requirements in establishment of a casual relation between a bacterium and a disease.
  1. Constant presence in all cases of the disease.
  2. Isolation in pure culture from the tissues of diseased body.
  3. Production of identical diseases by inoculation into live animals of the pure culture after it has grown for several generations on artificial media, and subsequent isolation of the identical bacterium from the inoculated animal.

All these requirements fulfilled in only a few instances.

C. Mixed and Secondary infections. The secondary infection may be injurious, indifferent or curative in effect.

D. Ports of entry of infectious bacteria.

I. Natural Infection:

1. Skin.
    - a. Unaltered—hair-follicles and ducts of glands.
    - b. Through wounds.
2. Mucous-membranes.
    - a. Intestine and stomach.
    - b. Genito-urinary tract.
    - c. Conjunctiva.
    - d. Air passages.
3. Intrauterine.
4. Germinative and conceptional.

II. Artificial Infection.

Into any of the tissues, cavities or circulating blood.

E. Paths of Dissemination.
1. Lymph.
2. Blood.

F. Distribution of Bacteria and Lesions.
1. Septicaemia.
2. Pyaemia.
3. Local infection with intoxication.

G. Local changes produced by bacteria.

I. Varieties:
1. Inflammation with serous, fibrinous or purulent infiltration.
2. Purulent catarrh, hemorrhagic exudate, necrotic processes.
3. Specific proliferative inflammation.

II. How Produced:
1. Bacteria as mechanical agents, of little moment.
2. Chemical materials coming from bacteria.
    - a. Products of living bacteria.
    - b. Dead bacteria.

H. General Effects of Bacteria.

I. Symptoms and Phenomena.
1. Fever.
2. Acceleration of lymph stream; hypo—and hyperleucocytosis.
3. Lessening of haemoglobin in the blood.
4. Disturbances of nutrition; locally or generally.
5. Inflammatory changes.
6. Chronic fibrous inflammation.
7. Effects of bacterial poisons on the nervous tissues.

II. How Produced:

1. Bacteria as mechanical agents.
2. Actions of toxins.

I. Natural or Inherited Immunity and Predisposition.

I. In species and races.

II. In individuals:—varies with age.

J. Acquired Predisposition.

Causes:

1. Depression of general nutrition.
2. Over-exertion.
3. Elevation or lowering of temperature.
4. Light.
5. Kind of food.
6. Sugars in body.
7. Poisons.
8. Diseases of particular organs, as kidney, liver, heart, spleen.
9. Bacterial products in body.
10. Mixed infections.
11. Local injuries to tissues.

K. Acquired and Artificial Imumnity.

I. Non-specific.

1. From action of agencies which combat living agents of infection.
    - a. General nutrition.
    - b. Rest of muscular and nervous system.
    - c. Elevation of body temperatnre.
    - d. Light—red light in variola, etc.
    - e. Character of food.
    - f. Alkalinity of blood; specific drugs in blood.
    - g. Cellular and nuclear substances in, and serum of blood.
    - h. Increase of natural secretions.
    - i. Action of different kinds of bacteria.
    - j. Local treatment; mechanical removal of focus of infection; lessening of tension in tissues by incision; affects on local blood-circulation by blood-letting; heat, and cold; passive congestion, causing local suppuration, local disinfection.
2. From action of agencies which increase the ability of the organism to withstand the action of toxic substances; as iodine and its compounds; bacterial products, etc.

II. Specific.

A. Against living virus.

Brought about by:

1. A course of the natural disease.
2. Artificial inoculation with specific cause of a similar diseases in vaccination against variola.
3. Inoculation with a small, non-fatal amount of the specific cause, followed by only a local reaction.
4. Inoculation with attenuated bacteria.
5. Introduction of bacteria and certain antiseptics at the same time.
6. Introduction of bacterial products.
7. Introduction of blood-serum from animals having specific immunity.
8. Introduction of other parts of body of specifically im-immunized animal.

B. Against bacterial poisons; antitoxic properties of blood serum.

L. In what does Virulence or Infectiousness Consist?

1. The composition of the protoplasm of the bacteria such that the alexines do not injure it.
2. Formation of a protecting envelope about the bacteria.
3. Ability of the living protoplasm of the bacteria to neutralize the alexines by breaking them down.
4. Specific bacterial products which make the alexines inactive. "Lysine" or "attacking material" formed by the bacteria or by the action of their products upon the alexines.

M. Theories of Immunity.

I. Natural.

1. Against living bacteria; natural antibacterial.

Due to:

- a. Absence of proper nutrient material in body.
- b. Too great concentration of nutrient material.
- c. Reaction of fluids of body.
- d. Temperature of animal body.
- e. Vital strength of cells greater than that of bateria.
- f. Nutrient material not in assimilable form.
- g. Directly antibacterial materials in blood—"alexines."
- h. Phagocytosis—positive chemotaxis.

2 Against bacterial poisons.

II. Artificial, non-specific. Usually leucocytosis. Little understood.

III. Specific.

1. Against living bacteria.

Theories to explain:

- a. Exhaustion.
- b. Local changes in tissues.
- c. Phagocytosis.
- d. Retention.
- e. Antilysine—modification of retention theory.

2. Against bacterial poisons. Antitoxines.

Specific vaccination.

Specific healing.

LECTURE II: PATHOGENIC COECI.

I. Pyogenic Cocci.

1. Staphyloccus Pyogenes Aureus.

a. Morphology and growth on various nutrient media.

b. Effects of inoculation of pure culture into animals, —subcutaneous, intravenous, intraperitoneal, intraocular.

c. Toxic products are mainly located in the bodies of the bacteria, and are slightly solible—phlogosin.

d. Immunity of animals; active can be produced; passive not certain.

e. Occurrence in man.

(a) Local infections; abscesses and phlegmonous inflammations; (b) pyaemia, endocarditis; (c) osteo-myelitis.

f. Inoculation into man.

g. Gross and microscopic character of lesions.

2. Staphylococcus Pyogenes Albus.

3. Staphylococcus Pyogenes Citrens.

Action similar to S. P Aureus; pigment produced different. Are less virulent than S. P. Aureus, and may occur alone or combined with one another.

4. Streptococcus of Eryspelas and Suppuration. (Streptococcus Pathogenes Longus.)

a. Morphology and growth on various nutrient media.

b. Effects of inoculation into animals. Into ear of rabbit varies with degree of virulence; (a) slight virulence, local reaction with recovery; (b) medium degree of virulence, local spreading erysipelas and death; (c) high degree of virulence, rapidly fatal septicaemia without local reaction.

c. Toxic products—but little known.

d. Immunity—active and passive have been produced in the sheep, horse, and ass.

e. Occurence in man.

Erysipelas, suppuration, lymphangitis, angina, pneumonia, periostitis, otitis, meningitis, pertonitis, empyema, endocarditis, puerperal infection, pyaemia. Frequent as secondary infection.

f. Inoculation into man.

g. Gross and minute changes in the tissues.

II. Diplococcus Lanceolatus.
1. Morphology and growth on various nutrient media. Preservation of virulence and properties of resistance. Varieties.
2. Effects of inoculation of pure culture into animals.
3. Immunity; active and passive have been produced.
4. Occurence in man:
   Fibrinous pneumonia; lobular pneumonia; empyema; pericarditis; peritonitis; suppuration of mucous membranes, as of those lining cavities connected with pharynx and nose, Fallopian tubes, endometrium; meningitis, endocarditis, abscesses. Secondary infection in connection with other bacteria
5. Gross and minute changes in the tissues.

III. Gonococcus.
1. Morphology and growth on various nutrient media.
2. Effects of inoculation into animals. Upon mucous membranes no effect. Large quantity into peritoneal cavity causes a peritonitis which is not fatal, and in which there is no increase of bacteria—an intoxication and not an infection.
3. Occurrence in man.
   Purulent catarrh of the mucous membrane of the urethra, bladder, cervix uteri, rectum, conjunctiva, and in small children of vagina. Synovial lining of joints and tendon sheaths, and pleura. Endocarditis gonorrhoica (?)
4. Inoculation of culture in man.

IV. Diplococcus Intracellularis Meningitidis.
1. Morphology and cultural peculiarities.
   Resembles veıy closely the gonoccus, except that it grows on ordinary nutrient media.
2. Effects of inoculation into animals:
   Occurrence in man.
   Epidemic cerebro spinal meningitis.

DYLLABUS OF LECTURES ON THERAPEUTICS.

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(*Session 1897 and 1898.*)

DIGESTANTS.

Pepsinum (pura)	gr. 1-ii
Ingluvin,	gr. v-x; 0.30-0.60
Pancreatinum,	gr. v-x; 0.30-0.60
Papain, (Carica)	gr. i-v; 0,06 030
Extractum Malti,	ʒi-iv; 4.00-16 00.

Physiologic Action:—Pepsin and ingluvin digest albumen. Pancreatin converts starch into albumose, starch into glucose, and emulsifies fats. Papain digests albumen and dissolves false membranes and tænia. Ext. Malti converts starch and dextrin into glucose.

Therapy:—Atonic dyspepsia; apepsia of infants, anemia, gastric ulcer, cancer, pancreatin in rectal feeding.

MINERAL ACIDS.

Acidum Sulphuricum Dil.,	minims v-xxx; 0.30-2.00
" " Aromaticum,	minims v-xx; 0.30-1.30
" Nitricum Dilutum,	minims v-xx; 0 30-1.30
" Hydrochloricum (dil.)	minims v-xx; 0.30-1.30
" Nitro-Hydrochloricum,	minims i v
" Phosphoricum Dilutum,	" x-xxx; 0-65 2.00

Effects:—Increase alkaline secretions—saliva, intestinal juice and bile; decrease acid secretions. Externally escharotics. Internally-increase appetite, digestion, and nutrition; if given too long they produce gastric catarrh. Secretion is promoted by nitric and lessenad by sulphuric acid. Bowels are constipated by sulphuric and relaxed by nitric acid.

SULPHURIC ACID.

Effects:—Astringent and antiseptic.

Uses:—In typhoid fever with excessive diarrhea, cholera preventive, lead colic; as an astringent in diarrhea. sweating and hemorrhage.

NITRIC ACID.

Uses:—Internally—astringent tonic; atonic dyspepsia; uric acid diathesis; oxaluria.

HYDROCHLORIC ACID.

Uses—Typhoid fever; scarlet fever; dyspepsia; to lessen phosphate deposits; in lithiasis; in acid eructation and heartburn dependent on excessive acidity of gastric juice after eating.

ACIDUM NITRO-HYDROCHLORICUM (after meals.)

Uses—In jaundice; in oxaluria; in headache situated in forehead just above the eyebrows, without constipation; as a bath or compress (℥ss to pint); in chronic liver disorders. The two acids are mixed in proportion of 3 of N. to 5 of H. Orange liquid results, which, after a time becomes red, then yellow, then golden yellow; by longer standing the golden yellow becomes lemon yellow and the odor of chlorin disappears. The deep red is the most efficient).

PHOSPHORIC ACID.

Uses—Nervous dyspepsia; diabetes.

INDIGESTION (stomachics).

Consider:—1. Imperfect mastication, salivation and want of regularity in meal hours. 2. Deficient secretion of HCl (chemical tests). (a) stomach atonic, administer alkalies and bitters before meals, e. g.

℞

Sodii bicarb,	ʒi (4.00)
Tinct. nucis vomicæ,	ʒi (4.00)
Tinct. gentian comp., qs. ad.	℥iii (96.0.)

Sig. One teaspoonful in water one-half hour before meals. Atrophy of gastric tubules.

℞

Acidi hydrochlor, dil.	℥i (4.00)
Ext. condurangonis fluid,	℥i (32.0)
Tinct. cardamum comp., qs. ad.	℥iii (96.0)

M. Sig. Two teaspoonfuls in water with each meal.

3. Hypersecretion of HCl.

(a) Remedies that decrease secretion-hyoscyamus, belladonna, opium, bismuth subnitrate, silver nitrate.

(b) Remedies that neutralize—sodium. bicarbonate, magnesia, chalk.

4. Excess of acidity not due to HCl. Lavage, with soap and water–exclude fats and butters.

℞

Oleoresinæ capsici,	
Pepsinæ puræ,	grs. ii (0.12)
Pulv. zingiberis,	grs. xx (1.30)
Carbo ligni,	grs. xl (2.60)
Creasoti,	m. 10 (0.65)

M. et fiat in pilulæ No. 20.

Sig. One after each meal.

FERRUM.

Preparations:—

Ferrum Reductum,	gr. i-v; 0.06 0.30
Ferri Sulphas Exsiccatus,	gr. ss-ii; 0.03-0.12
Syr. Ferri Iodidi,	m. v-xxx; 0.30 2.00
Pilulæ Ferri Iodidi,	1-2 pills.
Tinct. Ferri Chloridi	60; 0.30 4.00
Liquor Ferri et Am. Acetatis,	i-iii; 4.00-16.00
Ferri Pyrophosphates Solubilis,	gr. ii-v; 0. 1 0.35
Syr. Ferri Quininae et Strychninæ (gr. $\frac{1}{85}$ strych. to drachm)	
Phosphati,	$\frac{1}{2}$-1;2.00-4.00
Ferretin.	gr. i-v; 0.06 0.30

Incompatibles.—All substances containing tannic and gallic acid, therefore all vegetable astringent preparations; alkalies and carbonates.

Action:—Important constituent of hemoglobin; oxygen carrier; thirty-nine grams in blood. In mouth—inky taste; black sulphids discolor the teeth or tongue. In stomach—astringent, irritant action. In intestine—somewhat similar; meeting with sulphuretted hydrogen form sulphids, makes stools black; causes constipation. After absorption into the blood—increased number of blood-corpuscles, also the percentage of hemoglobin, thus increasing oxidation in the tissues. Eliminated by the bile, mucous membrane of intestine, and by kidneys.

Uses:—Styptic—sol. perchlorid. Hematuric—anemia, chlorosis, etc. Large doses in diphtheria; erysipelas. Astringent in kidney diseases. Internally—nervous exhaustion; chorea; anemia; chlorosis; secondary syphilis; erysipelas (Tinct. Ferri Chlor.); acute rheumatism; chronic diarrhea (pernitrate) epilepsy and hysteria with anemia; hemorrhages from the lungs, stomach, bowels or kidneys (liquor ferri nitratis gtt. ii-v); nocturnal incontinuence of urine (syr. iodidi). Contra- indicated in 1. Fever 2. Plethora 3. Where it distresses.

MANGANUM (manganese).

Preparation—

Mangani Dioxidum,	gr. iii-v; 0.18-0.3
Potassii Permanganum,	gr. ss-i;0.03-0.06.

Physiologic Action:—Small doses tonic, like iron; uterine stimulant.

Therapy:—Anemia; amenorrhea; lithiasis. In amenorrhea, dependent upon functional disturbance and anemia. Permanganate of potassium an antidote for poisoning by morphin.

PHOSPHORUS.

Preparations:—

Phosphorus,	gr. $\frac{1}{100}$ $\frac{1}{20}$;0.0006-0.003
Zinci Phosphidum,	gr. $\frac{1}{20}$ $\frac{1}{10}$; 0.003-0.006
Acidum Phosphoricum Dil.,	m v-xxx; 0.30-2.00
Syrupus Hypophosphiti,	ʒss i; 2.00-16.00
" " Comp. N. F.	ʒi-ʒii; 2.00-400
" Phosphatum Comp.,	ʒi-ʒii; 200 400

Physiologic Action:—Increases appetite and digestion, cardiac action, mental activity, sexual activity, formation of bone Eliminated by kidneys, liver, mucous membrane and skin.

Therapy:—Cerebral exhaustion; neurasthenia; locomotor ataxia; paralysis agitans; neuralgia; rachitis; pernicious anemia; functional impotence. Large doses continued may produce fatty degeneration of the viscera.

ARSENUM.

Preparations:—

Acid. Arsenosum,	gr. $\frac{1}{64}$-$\frac{1}{32}$ 0.001-0.003
Liquor Potassii Arsenitis,	mi-xx; 0.065-1.00
Liquor Acidi Arseniosi,	mi-xv;0.065-1.00
Sodii Arsenias,	gr. $\frac{1}{64}$ $\frac{1}{10}$ 0.001-0.006
Liquor Sodii Arsenatis,	m i-xv
Liquor Arseniiet Hydrargyri Iodidi	m ii-x;0.13-0.65
Arsenii Iodidum,	gr. $\frac{1}{20}$ $\frac{1}{10}$; 0.003 0.006

Effects—Locally—escharotic. Internally—large doses, powerful irritant to the gastro-intestinal and bronchial mucous membranes; small doses, stomachic tonic, improving appetite, digestion and assimilation; stimulates respirotory, circulatory, cerebral and sexual functions, promotes secretions. Eliminated by kidneys, intestinal mucous membrane, milk and sweat.

Uses—Internally—chronic malarial dyscrasia; intermittent fever after paroxysms have been broken by quinin; malarial neuralgia; prophylactis against malaria; chronic skin diseases of superficial strata; chronic rheumatism; rheumatic gout; rheumatic arthritis; irritative dyspepsia; gastric ulcer; cancer; gastralgia and enteralgia; chronic bronchitis; phthisis; chorea; paralysis agitans, diabetes; sexual debility; asthma when inhaled (bibulous paper saturated with liq. sodii arsen.) Locally —arsenic as a caustic.

TONICS.

SIMPLE BITTERS.

Quassia—Ext. Quassiæ Fluid. m ss-i; 2.00-4.00
Gentiana—Tinct. Gentianæ Comp. m ss-ii; 2.00-8.00
Calumba—Ext. Calumbæ Fluid, m v-xxx; 0.30-2.00

Effects:—Stomachic tonics; increase secretion of mucous membrane, saliva and gastric juice.

Uses:—After acute disorders; vomiting of pregnancy; intestinal flatus; to destroy ascarides, quassia by enema.

AROMATIC BITTERS.

More stimulating to mucous tract, more or less astringent because of tannic or gallic acids.

Serpentaria—Ext. Serpentariæ Fluid, m x.xxx;0.65-2.00
Tinct. Cinchonæ Comp. ʒi-iv; 4.00-16.00
Eucalyptus—Ext. Eucalypti Fluid, m v.ʒi;0.30-4.00
Prunus Virginiana—Syr. Pruni Virginianæ,ʒi iv;4.00-16.00

Effects:—Owing to bitter principle, effect on digestion and nutrition same as simple bitters. Owing to volatile oils. stimulating. Eliminatod by bronchial mucous membrane, skin and kidneys, increasing secretion. Owing to tannic acid, astringent. Eucalyptus germicidal. Prunus virginiana, owing to hydrocyanic acid, sedative to pneumogastric nerve.

Therapy— Serpentaria in bronchial affections; exanthemata, amenorrhea of anemia and chlorosis, functional impotence, chronic rheumatism. Eucalyptus in chronic catarrh of gastric bronchial and genito urinary mucous membrane. Prunus virgin, stomachic tonic, cough-relieving in bronchial catarrh and in phthisis.

AROMATIC STIMULANT TONICS OR CARMINATIVES.

Effects:—Locally—irritant and rubefacient. Internally—gastric and intestinal stimulants.

Uses—Carminatives to prevent griping or purgatives, to correct unpleasant taste or smell of other medicines; antiseptics and as gastric stimulants.

Enumeration:—Anisum (anise seed); cajaputi oil, cuirea momum, canella, caryophyllus (cloves); cardamomum, carum (caraway); coriandrum (coriander); gaultheria, (winter green); lavandula, macis (mace); mentha piperita (pepermint); mentha viridis (spearmint): capsicum (red pepper); piper nigrum (black pepper); zingiber (ginger.)

PECULIAR BITTERS.

1. Cinchona, 2. Hydrastis, 3. Salix.

CINCHONA—Tinct. Cinchonæ Comp., ʒi-iv

Quininæ Sulphas,	gr. i-xv
“ Hydrobromas,	gr. i-xv
“ Tannas,	gr. i-v
Cinchonidinæ Salicylas,	gr. i-xv.

Physiology:—Nervous system, cerebrum—small doses stimulant, large doses congestant; spinal cord diminishes reflex action; circulation—small doses stimulate, large doses depress; blood—large doses diminish oxygen-carrying function of red corpuscles, inhibit movements of white corpuscles and prevent migration, small doses increase number of red blood-corpuscles; respiration—large doses depress, small doses stimulate. Temperature—in fever, lowered. Antiseptic properties marked (1 in 20000, plasmodium malariæ). Uterus—energizes uterine contractions when present. Eliminated by kidneys; sometimes irritates bladder; small doses increase excretion, large doses diminish it.

Untoward Effects:—Temporary blindnes, deafness, skin eruptions (erythema), epistaxis, tinnitus aurium. Contra-indicated in gastritis, cystitis, meningitis, epilepsy, and where there is an idiosyncrasy.

Therapeutics:—Externally—hay fever; pertussis (gr. vi ʒi-atomiser); gonorrhea; vesical catarrh (2 per cent. sol.). Internally—antimalarial; tonic; antiseptic; stimulant to parturient uterus; malarial fever—1. Hepatic purge, 2. Quinin in divided doses, so as to have full effect, one hour before paroxysm; remittent fever; pernicious malarial fever; malarial neuralgia; septic diseases; septicemia; erysipelas; puerperal fever. Tonic—small doses a bitter tonic, increasing red blood-corpuscles, gr. i-ii, t. i. d. Obstetrics—gr. x-xx, early in labor. Warburgs tincture in chronic malaria.

INTERMITTENT FEVER (quotidian, tertian, quartan).

Treatment:—Cold stage—put patient to bed; hot water bottles; warm clothing; hot drinks; abort attack by hypodermic injections of morphia and atropia or chloroform 20 to 40 minims. Hot stage—remove all extra clothing; free sponging with cold water; cold compresses. Sweating stage—gentle friction without towels; changes of underclothing. After sweating stage, mild purgation (calomel and sodium bicarbonates); quinin sulphate, gr. v. every four hours until three doses are taken; give 10 to 20 grs. two hours before next attack is anticipated; on intervening days, 10 grs. daily (capsicum heightens effect); after paroxysm is broken give quinin, arsenic and iron; for enlarged spleen give quinin and potassium iodid.

REMITTENT FEVER (bilious fever).

Treatment (quinin the specific):—1. Calomel and sodium bicarbonate purgation 2. Large doses of quinin (20-30 grs.); if stomach will not tolerate, give hypodermically or per rectum. 3. If pyrexia is excessive use cold pack, and, if necessary, antipyrin. 4. Relieve vomiting by hypodermic injection of morphia and atropia. 5. If intestinal hemorrhage, use bismuth subgallate. 6. In convalesence, quinin, iron, arsenic, mild laxative and watch kidneys.

HYDRASTIS:—

Ext. Hydrastis Fluid,	m. v-xv.
Hydrastin,	gr. ss-iv.

Physiologic Action:—Increases appetite, improves digestion, nutrition and secretion.

Therapy:—Atonic dyspepsia, chronic gastric catarrh, chronic cystitis. Locally—injection in gleet, leucorrhea (ʒ i to pint of water.

SALIX:—

Salicin, gr. iii—i:0.192-4.00.

Physiologic Action:—Tonic, antiseptic, antipyretic, antifermentative.

Therapy:—Substitute for quinin in malaria and debility, rheumatism.

DERIVATIVES OF SALICIN:—

Acid. Salicylicum,	gr. v-ʒ i:0 32-4.00.
Sodii Salicylas,	gr. v-ʒ i: " "
Lithii "	gr. v-ʒ i: " "
Salol (phenolsalicylate)	gr. v-ʒ i:0. 32 4-00.
Salophen,	gr. v-ʒ i:0. 32-4.00.

Physiologic Action:—Antiseptic, antipyretic, acute rheumatic.

Therapy:—Rheumatism; salol-intestinal antisepsis, diarrhea in typhoid fever, dyspepsia, gonorrhea, sterilizes urine and urethra;—contra-indicated in renal diseases.

RHEUMATISM.

Acute Rheumatism:—Absolute rest in horizontal position; room should be well heated and ventilated; bed—good hair mattresses, no linen sheets; patient should wear a light flannel nightdress, also loose-fitting flannel drawers; a bed-pan and urinal are essential; diet—milk, fruit, farinaceous food lemonades.

Medication:—Free purgation with calomel and soda; salicylate of sodium, salol; sodium salicylate, gr. xv. every hour until profuse perspiration and tinnitus aurium, or until five or six doses have been taken, then lengthen interval between doses but maintain perspiration for twenty-four hours. Then, to avoid relapse, add alkali e. g., potassium bicarbonate gr. xxx, until urine becomes alkaline.

℞

Potas. bicarb.,	ʒ vi,
Aquae dest.,	℥ xii.

M. Sig. Two tablespoonfuls with lemon juice. Continue forty-eight hours, then give salicin, gr. x-xv every four hours for a week.

Pericarditis and Endocarditis:—Add alkalies to salicylates at once; if pain is severe, morphin hypodermically; apply blister over precardiac region; hyperemia—cold bath, acetanilid or phenacetin, quinin. Local treatment—paint joints with oil of wintergreen and cover with absorbent cotton. Use ointment: ichthyol, ʒiii-vi; adeps benzoinatum, ʒvii-xiv.

Chronic Rheumatism:—Iodids; alkalies; arsenic; salicylates, sulphur and potassium bitartrate; guaiacum; baths (Turkish); alkaline waters; clothing; diet—mixed food, fresh meat and fresh vegetables; sulphur locally.

Rheumatic Arthritis (chronic):—Climate—warm, dry, equable, e. g., Algiers, Egypt, Southern Spain, Italy, Southern California, Arizona, New Mexico. Clothing—woolen garments, woolen stockings, cork insoles. Diet—mixed, fresh meat, fresh vegetables, celery, onions, horseradish, fats, olive oil, cod-liver oil, extract of malt; sometimes purely vegetarian diet. Galvanic battery, massage, Turkish baths, sodium salicylate, potassium iodid, sodium iodid, iodin. Liquor potassii arsenitis, sulphur, guaiacum.

ANEMIA.

Always determine hemoglobin by hemoglobinometer, and number of corpuscles by hematokrit.

Anemia may be due to: 1. Defective hemogenesis. 2. Excessive hemolysis. The first or the simple anemias; the second class the usual (a) capremia, (b) pernicious anemia. Iron is the great remedy, but will not cure all anemias. Three theories of its action—1. Absorption. 2. Action as a stimulant to mucous membranes, thereby improving digestion. 3. By changing sulphur and sulphuretted hydrogen in bowels into a sulphid. The action of iron is increased by combining it with bitter tonics—nux vomica and arsenic, e. g.,

℞

Ferri sulphatis (sesil),	gr. ix.
Sodii carbonatis (sesil),	gr. ix.
" arsenatis,	gr. ii.
Ext. nucis vomicae	gr. v.

M. Fiat capsules No. 30.

Sig. One after each meal.

ALTERATIVES.

Preparations:—

Massa Hydrargyri,	gr. i-x:0.06-0.648.
Hydrargyri cum Creta,	gr. i-v:0.064-0.325.
" Chlorid. Corrosiv,	gr. $\frac{1}{8}$-$\frac{1}{60}$; 0.008 0.001.
" " Mite,	gr. $\frac{1}{10}$-x; 0.006-0.648.
" Iodidum Flavum,	gr. $\frac{1}{8}$-i; 0.008-0.74.
" " Rubrum,	gr. $\frac{1}{50}$-$\frac{1}{60}$; 0.001-0.006.

Unguentum Hydrargyri

Oleatum " (10 per cent).

Physiologic Action:—In minute doses—blood tonic, increases number of red blood corpuscles; in small doses—stimulates secretion of skin, mucous membrane, liver, kidneys; in full doses—cathartic (especially calomel and blue mass); in full doses continued secretions are increased and become pathologic. Ptyalism most rarely caused by massa or calomel, less so by corrosive sublimate or mercury with chalk. Eliminated by kidneys, liver, skin and salivary glands.

Therapeutics;—1. Anti-syphilitic. 2. Purgative. 3. Antiseptic and germicidal. Syphilis—massa, hydrarg, iodidi rubrum, sublimate, inunctions; hypodermic injection (chlor. corros. and sodii chlorid); tonsilitis—calomel, gr. every two hours; parotitis—mercury with chalk, gr. $\frac{1}{20}$ every two hours;

irritable stomach—calomel, gr. $\frac{1}{20}$; gastric ulcer—small doses of the sublimate;dysentery—small doses of the sublimate; cholera infantum—calomel, gr. $\frac{1}{20}$, followed by salol; diphtheria—small doses of the sublimate; typhoid fever—calomel in the beginning, sublimate later; interstitial inflammation—liver, kidneys and spinal cord, "biliousness." Externally—parasitic skin diseases; to promote absorption in goitre; enlarged spleen; orchitis; chronic epididymitis and other glandular swellings.

IODUM.

Preparations:

Tinct. Iodine,	m. i-v; 0.006 0.323.
Potass iodidum,	gr. ii-ʒii; 0.128-8.0.
Sodii "	gr. iii-ʒii; 0.192-8.0.
Iodoformum,	gr. i-v; 0.006-0 323.

Effects:—Iodum—disinfectant, antiseptic; locally—irritant to skin and mucous membranes; vapor inhaled is irritant to air-passages; converted in blood into iodids; eliminated by urine, nasal mucous membrane, saliva, milk, intestinal mucous membrane; during elimination, often irritates parts where set free; even in small doses may cause iodism, *i. e.*, irritation of nose, intestinal tract, running at nose, lacrymation, frontal headache, sore throat, erruptions on face and shoulders, anaphrodisiac effect, emaciation, depression, copious dilution to prevent.

Uses:—Locally—absorbent; with lanolin; enlarged joints; strumous glands; goitre; effusions in serous cavities as pleurisy by inhalation in catarrh, coryza, hay fever; internally—iodids; tertiary syphilis; scrofulous and grandular enlargements; cirrhosis; liver and kidneys—sclerosis, nerve-centers; chronic poisoning from mercury, lead and other metals; chronic rheumatism; intra-cranial tumors; asthma (syr. hydriodic acid); aneurysm (large doses of iodids); dropsy, as a diuretic; chronic malarial poisoning (iodids with arsenic); to promote absorption of pneumonic consolidation; chronic bronchitis.

(Continued in May Number.)

DR. SKINNER'S LETTER.

The following extract from letter received by O. T. Roberg '99 from Dr. J. E. Skinner, '97 will be read with interest by all who knew the doctor. He writes from Foochow, China, where he is superintendent of the Wiley Memorial Hosyital, as follows:—

"I expect you would like to look in and see a fellow wouldn't you? You just depend on it you would be warmly welcomed. I am sure there is nothing in my room to suggest its being in China, except perhaps the Chinese books. Those Chinese books! What a bugbear they were at the start but now they are unfolding wonderfully and already I can understand a great many words the preacher uses. The idiom, though, is so different that it is hard to get the meaning of his sentences. We study partly the "Romanized" system and partly the character. All Chinese classics are printed in classical character which even the scholars must interpret in order to understand it. I hope to be able to take up the study of the classical as all the medical works are in that style. We have had a number of patients already though we refuse to treat any except students in the schools. The troubles so far may be classed under three heads—malaria, worms and constipaion—I might add consumption which is very common here. But *worms*! They say everybody gets 'em out here and santonin and rhubarb are as much the regular thing as calomel is at home. Scabies is very common but the children in the schools have been watched carefully and we have had nothing in that line yet. I find the hospital here the finest I have seen since coming to China. Beside the hospital there is a dispensary and chapel combined and an opium ward, where patients patients may come ank break off the habit. And it is an awful habit. No one can form any conception of the misery it causes; besides it makes the smokers almost worthless. So many of the chair coolies smoke opium and they are continually giving trouble.—You should see our baby. There is no one like her. Have tried to get her picture but have no plates fast enough. She is only five months old (and a week now) and has two teeth. Has been vaccinated, and had the chicken pox, weighs over 15 pounds and measures 27 inches in height (*has red hair too*). But the messenger is waiting. Good bye—Don't forget us."

J. E. S. SKINNER.

The Corpuscle.

EDITORS.

P. A. WAKEFIELD. Editor-in-Chief.
J.P. SEDGWICK, B. S., Secy. and Treas.
J. V. WHITE, 1900. N. W. JUDD, A. B. W. MURRAY, 1900.

Communications relative to advertisements and subscriptions ($1.00 yearly to undergraduates) should be addressed and remittances made by money order, draft or registered letter, to C. E. Judd, Business Manager, 93 Flournoy St., Chicago.

Ruby Red and Black: Colors of Lake Forest University. Orange: Color of Rush Medical College.

OUR FRONTISPIECE.

Through the courtesy of Dr. Jno. R. Hamill, '87, we are able to present an excellent likeness of that venerable man, J. Adams Allen, better known by the former graduates of Rush as "Uncle Allen." We feel that the present students at Rush, as well as every alumnus, will appreciate this picture, also the article, "A Few Words Concerning Uncle Allen," which will serve to recall to the mind of all who were privileged to listen to him, the wise and philosophical lectures of this unique man.

PROFESSOR HAMILTON'S "PERSONAL PRIVILEGE."

At the lecture on Tuesday, March 15, when Professor Hamilton came into the lecture-room, he was greeted with enthusiastic shouts of "Story! Story!" The Professor, who is not given to story-telling during lecture hours, said that he would this time accommodate the class, but instead of a story he would speak to a question of personal privilege. He said he would take the whole class into his personal confidence and say that for the last six weeks he had been annoyed by a persistent rumor that he was about to resign, and that sometimes one of the other professors, and sometimes one of the assistants had been named as his successor. He had treated the matter with silence, supposing, like all other college rumors, it would die of itself. But it had grown and grown like Mr. Finney's turnip until inquiries had become frequent, and that, notwithstanding the denial by one of his colleagues, the rumor kept on. He had thought if he only kept quiet about it that the original liar who started it would be "smoked out," but so far it was without avail, and that person seemed to have the properties of a salamander.

Of his connection with Rush Medical College, he said that commenced in 1867, thirty-one years ago, in the new college building on the North Side. He was graduated from it in 1869, and he was glad to say that he stood well in that class. He then practiced in Jersey and Green counties in Illinois until October, 1874. The first year he had charge of the medical service of Jersey County, and the inmates of its infirmary. In 1874 he entered the army as Assistant Surgeon after a competitive examination, served at the Cavalry Depot, St. Louis, and later was ordered to the Pacific coast, was assigned to duty as Post Surgeon at Fort Colville; and as the Indian Agency physician had become sick Dr. Hamilton had, in addition to his military duty, the medical care of the Catholic Missions and about 3,000 Indians of both sexes. Tiring of frontier life he resigned, and came home in the summer of 1876. He then entered the Marine Hospital service, also after a competitive examination, in the several branches of medicine and headed his class.

He was appointed Ass't Surgeon, stationed in New York City. He attended sailors at the old Seaman's Retreat Hospital, the Brooklyn City Hospital and Long Island College Hospital, where at the time contracts were made for their their board. He was sent to take charge of the Marine Hospital at Chelsea, Boston Harbor, in 1877, and was promoted to be surgeon that year. He remained there until February, 1879, when he was ordered to Washington, by telegraph, and placed in temporary charge of the Bureau, Surgeon-General Woodworth then being sick. General Woodworth died in March, and Dr. Hamilton was promoted to the vacancy by a nearly unanimous vote of the medical corps of the service, only two remaining silent. In 1882 he was asked to lecture on Surgery in the Columbian University, as *locum tenens* for Prof. J. F. Thompson, who went to Europe on his vacation. In 1883 Prof. Ashford, of Georgetown University died, and Dr. Hamilton was elected to the vacancy. His attachment to Providence Hospital commenced in 1881, and from that until 1891 he was connected with it as a surgeon and attended its charity ward. In 1891 he came to Chicago, on the invitation of the faculty, but only after the advice of Prof. Senn, the chair being divided between the two. During his life in Washington he was Secretary-General of the International Medical Congress, a most succcessful meeting. He had thanks of various official bodies, and honorary memberships in many medical societies, some of them from abroad, and now, after an experience of twenty-nine years, twenty-three of which had been given almost exclusively to surgery, he was to be insulted in the interest of some unknown. If experience in surgery were worth anything, if personal equation were any factor in the success of his chair, the present classes had the advantage of it; if, however, a young man was preferred with less experience, with no acquaintanceship outside of his immediate circle, and the classes were satisfied with a mere recital of the text-book, he would not stand in the way of their getting him.

We are glad the Doctor thus answered the rumor that Rush was to lose him, for each year rumors of similar tone, about first one and another professor arise, and gain credit with each recital, until one hardly knows what plans to make with so many apparently authentic charges announced. Such remarks, too, bring the student and professor closer in touch, for the brief recital of the events in the life of a busy and favorite professor are of interest to the student, as was shown by the round of applause at the conclusion of the Doctor's remarks.

WHERE WILL YOU PRACTICE.

The army medical service offers many attractions and inducements for the young practitioner, and the requirements are not beyond the attainment of first-class men. We commend to the careful consideration of the seniors especially, the following:

An Army Medical Board will be in session at Washington, D. C., during the month of May, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the board will make application to the Secretary of War before April 15, 1898, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character and habits. The candidate must be between twenty-two and twenty-nine years of age and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the Board.

Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medidal School, beginning in November, 1898.

Further information regarding the examinations may be obtained by addressing the Surgeon General, U. S. Army, Washington, D. C.

GEO. M. STERNBERG,
Surgeon General, U. S. Army.

IOTA PHI IOTA.

A praiseworthy movement has been inaugurated by a number of members of the sophmore and junior classes, which certainly deserves a passing notice. These students, recognizing the need of variety in the intellectual menu, have organized a society for the purpose of affording themselves such a change and, incidentally, of preparing for future activity in medical societies of which they may become members. This society, while not partaking of the nature of a Greek letter fraternity, is called the Iota Phi Iota.

Bi-weekly meetings are held in the physiology laboratory, at which papers of a scientific interest are read and discussed with much pleasure and profit. Among the interesting papers that have been prepared by the members are the following: "Hyptnotism;" "Appendicitis;" "Neuritis;" "Hysteria;" "Darwinism;" "Comparative Anatomy of Nervous System;" "Metabolism and Polarized Light."

Announcement is soon to be made to the freshman class regarding their eligibility as sophomores. Scholarship, we understand, is the sole qualification for membership, though a endency toward pedantry or priggishness is especially guarded gainst. Several members of the faculty have become interested in the organization, and it will probably become an offiicial institution.

A CORRECTION.

In our March issue the advertisement of the Electro-Medical Supply Co., Chicago, appeared without firm name and address, while the advertisement of the Lambert Pharmacal Co., familiar to our readers, at top of page following last reading page, was not in its accustomed place, owing to an accident to the form after the issue had gone to press. We regret the inadvertence of our printer in thus re making up the forms. Our readers will find the latter company's "adv." in its accustomed position hereafter, while the Electro-Medical Supply Company is now R. V. Wagner & Co. It will be to the interest of our readers to patronize our advertisers when needing goods in any line, and to their and our interest to tell them you saw their advertisements in THE CORPUSCLE.

Alumni Department.

JHMES B. HERRICK, A. M., M. D., EDITOR.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to The CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Cihcago.

Attention is called to the article, "A Few Words Concerning 'Uncle' Allen", by Dr. Jno. R. Hamill. It is interesting alike to the students and alumni of "old Rush."

Dr. J. S. McNeil 89 is at Elkhorn, Wisconsin.

Dr. I. M. Casebeer '93 is at Hillsdale, Indiana, and doing well.

Dr. F. R. Weston, '93 is at La Crosse, Wisconsin, making a specialty of disease of the rectum.

Dr. F. D. Rathbun '76 is in general practice at New Windsor, Illinois, yet he is doing much special work in disease of the throat and nose.

Dr. C. Travis Drennen '85 was recently honored by being elected first vice-president of the Tri State Medical Association of Arkansas, Mississippi and Tennesee. Dr. Drennen is at Hot Springs, Arkansas.

Dr. J. Frank Keefer' 81. of Sterling, Illinois, was president of the North Central Illinois Medical Association. A very interesting programme was presented at the meeting held at Pontia, Dec. 7 and 8.

From the Huron, South Dakato, *Herald-Democrat*—The appointment of Dr. Tillison Wood as county physician is giving good satisfaction. Dr. Wood is a recent graduate of a medical college, but is attaining a large practice and has promise of a very successful career in his chosen profession. Dr. Tillison J. Wood is of the class of '97.

We clip the following from ths Havana, N. D., *Moon*, of March 18. "One of the liveliest, genial fellows in town is Dr.

Steele, and he understands his business and is a good man for the place. He is a graduate of the Rush Medical College, Chicago, Ill., and has been in Havana since his graduation. He has always had his eye open to boom the interests of the town. He is leader of the brass band and orchestra, both of which were organized under his supervision. He keeps his office in Holmes' drug store."

DEATH OF GEORGE W. BOWERS, '95.

OSHKOSH, WIS., March 10, '98.

My Dear Doctor:—Your fellow student, Dr. George W. Bowers, class 1895, died of heart failure yesterday morning, and will be buried from his home, 124 Lincoln Ave., Oskosh, Wis., tomorrow afternoon, at 2 o'clock. Kindly advise inquiring friends, and oblige his family.

Yours respectfully,
ANTHONY BOWERS.

John G. Truax, M D., Rush Medical College, Chicago, 1871, died at his home in New York City, February 16. He was born in Durhamville, N. Y., March 5, 1848, and for two years after graduation served in the Chicago hospitals, and then went to the Peninsula on Lake Superior, where he remained among the iron mines until 1876, when he went to New York, eventually to fill many responsible positions in social and club life. A recognized authority in pottery, he was also the possessor of the works of many foreign and American artists, wrote considerably for the New York State Medical Association, and participated somewhat in the debates of the New York County Medical Association, before which he first introduced his alcoholic test for urine. His predilections, however, were for hospital work and dealings with large bodies of the community; hence he was a pension examining surgeon, a visiting physician to the Harlem Hospital, a member of the Board of Governors of the New York Juvenile Asylum and chairman of the Board of Trustees of the Mott Memorial Library.—*Journ. Amer. Med. Ass'n:, Feb. 26, 1898.*

DEATH OF DR. McDONALD.—Dr. Thomas T. McDonald '65, a prominent resident of New Carlisle, died after a lingering illness, from cancer. The deceased was born Nov. 5, 1832, in Clark county, Ohio. He came with his parents to La-Porte county in 1836. He received his education in the common schools and began teaching at the age of 22, which vocation he followed for ten years. During this time he began the study of medicine under Dr. J. M. Hunt. who died after a few months. Young McDonald pursued his studies unaided until the winters of 1863-4 and 1864-5, at which time he attended Rush Medical College in Chicago. He began the practice of medicine in 1864 however, in what is now Lincoln township; in 1866 removed to New Carlisle, Ind., where he had since been located, and where he had steadily followed the practice of his profession, with success. Dr. McDonald, in 1866, married Miss Hattie A. Higgins, who died about six months ago. To them were born six children. Dr. McDonald served as school trustee and was elected to the office of township trustee, which office he held five years. He was well known throughout the state, and many friends mourn his demise.—*Times*, So. Bend, Ind.

HEARD ABOUT COLLEGE.

Dr. H. S. Smith. ex-interne, Presbyterian Hospital, has located in the Badger state.

Prof. Hebtoen has returned from a trip East.

March 17 a dinner was given at the Union League Club by the faculty and trustees of Rush Medical College, in honor of the retiring president, Prof. Holmes.

Dr. Phelps. the noted orthopedic surgeon of New York city, occupied one of Prof. Senn's lecture-hours recently and also an afternoon clinic. The students turned out *en masse* to hear the Doctor.

Do you need a surgical chair or table, or camera. The CORPUSCLE can fit you out in either line, to your satisfaction and with mutual benefit.

Dr. S. D. Beebe's interneship in The Presbyterian Hospital expires April 1. We hear the Doctor is to locate in the city as Examiner for the Burlington road.

Prof. Hektorn has an exhaustive paper on the "Fate of the Giant Cell in Healing Tuberculosis" in the last number of the *Jour.* of *Experimental Medicine.*

Who has the greatest peripheral resistance in the class of 1901? M———y.

The junior work in the dispensary has necessitated some changes in other work. Dr. Slaymaker's afternoon section in medicine meets hereafter from 5 to 6 o'clock. Dr. Stahls' course in practical obstetrics has also been changed to 5 o'clock.

Prof. Senn will leave early in April to attend the meeting of the Association of Military Surgeons, after which he expects to take a trip, Cuba being the goal. The seniors will be given their final in his course before his departure.

Before the Chicago Pathological Society, March 14, Prof. Edwin Klebs read a paper on "Anatomic Changes in Yellow Fever." His paper, embodying the recent investigations of Prof. Klebs, concerning yellow fever, has caused much comment the lay press and is to appear in the *Journal* of the *American Medical Association*. Prof. Hektoen also demonstrated a series of interesting pathologic specimens. We hope to publish a more complete account of Prof. Kleb's discovery in May.

Prof. Weaver has gone abroad for six months. He will study during his absence from Rush, either in Germany or Austria. Prof. LeCount assumes Dr. Weaver's duties as secretary of the Chicago Pathological Society, during the latters' absence.

Prof. Haines' familiar face has againbeen missed in his department. The Doctor seems to have had more than his share of illness this past winter but at last reports was much improved. Prof. Patton has given the freshmen lectures and Prof. Salisbury the sophomore lectures during the absence of Prof. Haines. The freshman laboratory work has also been uninterrupted.

On April 4th the annual examination for Cook County begins. To the "County Class" the CORPUSCLE extends its best wishes for success in this the culmination of a year of weary grind in preparation. From the character of the men and the energy shown in their work, we feel confident that the record which Rush has made in these examinations in the past will be lived up to if not excelled by the class of '98.

Prof. Herrick's bedside work at Cook County Hospital is step in the right direction. Anyone who has heard the senior's remarks concerning it can not doubt but that it has been appreciated by those who have been fortunate enough to receive the instruction in the wards. In medicine especially is it necessary to come in close contact with the patient. A description of a heart lesion is much better understood when one is at the other end of the stethoscope than when at the other end of the amphitheatre. About half of the seniors have finished the work and Prof. Herrick expects to give the members of the class of '99 the same opportunity when the graduating class is hrough.

WITH OUR EXCHANGES.

“Impressions—Photographic and Otherwise,” in the *Midland Monthly* for March has to do with New Orleans. Other interesting, many well illustrated, papers are: “Rocky Mountain Snow.Shoeing;” “The Presidest of the Hawaiian Republic;” “Some Ladies of the New Administration;” a paper on the Trans-Miss. and International Exposition; “The Elements of a National Literature;” “Obstacles to Municipal Reform;” and some excellent stories. The reproduction of Titan's “La Flora” alone makes the number invaluable.

Bicylists everywhere will be interested in the article on the League of American Wheelman which appears in the April number of *Frank Leslie's Popular Monthly.* It is a well-written account of this great organization from its beginning in 1880. There are more than twenty very good illustrations, including portraits and groups of wheelmen. In the same number Senator James H. Kyle has an article on “The Statesmen of Jackson's.” The Island of Martinique is interestingly described by Julius G. Tucker, U. S. Consul at that place. William Stevens Perry, Bishop of Iowa, contributes an elaborately illustrated article on the Episcopal Church in this country. The great interest in the Alaska gold fields makes particularly timely and attractive the paper on “Gold Mining in British Columbia.’ Other interesting articles are “The Coastguard of England,” “At the Foot of the Pyrenese,” by Mary de Morgan, and “April Fool's Day.”

A recent addition to our exchanges is the *Citizen*, a bright attractive monthly on good paper, typography excellent and replete with interesting articles. It is worth your while to ask the publishers, 111 S. Fifteenth street, Philadelphia. for a a sample copy.

The *Living Age* needs but to be read to be appreciated. Elevating, entertaining and instructive, it embraces every department of literature, including some of the best fiction of the day and poetry, and contains something for every variety of taste. It is indeed invaluable to one who has neither time nor opportunity for scanning all the magazines but who is desirous of keeping abreast of the literary current. Most of its articles are of great present isterest, as well as of permanent value, yet they can be obtained in no other way except by subscribing direct for the periodicals in which they originally appear, and these are many and various, comprising not only those of Great Britain but many of France, Germany, Spain and other continental sources.

In the *Overland* for April will appear one of the most powerful stories that has been published in America, a Norwegian tale; "The Ascent of Mt. St. Elias," by C. W. Thornton, one of the only party that has reached the almost inaccessible summit; "Lost in the Petrified Forest," by Will Barnes, a pathetic story of cowboy life in Arizona; the second part of Major Truman's "Knights of the Lash," an account of Cape Flattery and its Light; "A Vanishing Island," by Mrs. M. Burton Williamson, an historic account of Dead Man's Island off San Pedro harbor.

Outing for March contains: "The Fox Terrier" with portraits of prize winners; "Hunting the Fur Seal;" "Pig-Sticking in Northern India;" "The Southern Yacht Club of New Orleans;" "A Naturalist in Nicaragua;" "A Week With the Singhalese;" "A Glimpse of a Florida River;" "Barcelona," its scenes and people; "Coasting," down grade a mile a minute, with instantaneous photos. There are also stories, poems and numerous excellent illustrations while the various departments are up to their usual standard.

PUBLISHER'S NOTES.

When you have a few spare moments drop in at Drake & Mueller's and look over their stock of instruments. Rush men will find a complete line of the best goods and are always welcome at 266 Ogden. Seniors fitting up for practice will find a call to their advantage.

THE MEDICAL EXCURSION IN JUNE TO DENVER AND SALT LAKE CITY.

The American Medical Association meets at Denver June 7th to 10th. One of the features of the gathering will be an excursion from Denver to Salt Lake City and return via. the D. & R. G., Colorado Midland & Rio Grande Western Ry's., through the "Heart of the Rockies," furnishing a splendid opportunity to view the most magnificent scenery on the American Continent. Salt Lake City is an ideal Summer Resort and the bathing at Saltair in the Great Salt Lake—inland Salt Sea nearly a mile above sea level—is superb in June. There are more attractions in and about Salt Lake City than any place in the world. Later notice will appear in this publication giving rates for this excursion and all details In the meantime send to F. A. Wadleigh, G. P. A., Rio Grande Western Ry, Salt Lake City, for copy of pamphlets on Salt Lake City and the Rocky Mountains.

The Corpuscle.

Rush Medical College, Chicago, Ill.

Medical Department, Lake Forest University.

VOL. VII. MAY, 1898. NO. 8.

RUSH MEDICAL COLLEGE BANQUET.

MODERN METHODS OF MEDICAL INSTRUCTION.

BY HENRY BAIRD FAVILL, A. B., M. D.

Mr. President and Gentlemen of the Faculty:

My interest in this matter is not greater than my marvel at the enormous advance which has occured within the short space of years, since 1880, when my medical college experience commenced. And yet in drawing the comparison, which so forcibly presents itself, I must declare that it is not to the discredit of the early day, any more than that day was a rebuke to its predecessor. I believe that you will agree with me, that medical education offered to students at that day was as nearly abreast of the education possible for them, as is our present exhibition an approach to the present possibility. The great difference in spirit which strikes me as occuring in respect to medical education in general, lies in the attitude of the public toward the profession, or more exactly of the State toward the medical school. In this the change is very pronounced and I believe the advancement is very clear. It is on the whole a matter of congratulation both to the schools and the profession at large, that society has seen fit to demand that we require of the medical graduates as good an education as we offer. That this change has been instigated by the profession is to its credit, and does not qualify the advantage so far as society is concerned. That the means and methods to this end have been at times unreasonable, inconvenient, and are in many respects meddlesome, is but a passing annoyance as compared with the final advantage, which resides in the fact that while the public is properly protected the medical schools are relieved of the embarrassment of illegitimate competition, and the entire process operates as a measure whereby there is culled the unfit material.

When we come to consider our own more specific interests as educators we would designate amongst many improvements three features in particular which claim our earnest consideration: First, the laboratory; second, the clinic; third, the recitation.

Of the laboratory too much can not be said, little need be said. It represents the utmost development of the educational idea. To have incorporated it in our own affairs to the extent possibly of disproportionate development credits us naturally with the desire to be entirely *en rapport* with the march of education in every department.

To one who has not had the advantage of a technical laboratory training, but whose interest and ambition have led him to the acquirement of lame and half satisfying methods in furtherance of his desire for power, the idea of laboratory training is most alluring. Recognizing this, it suggests to me qualifications upon which I wish to comment. The laboratory factor is liable to over-estimate in two directions: 1, by many of those who have had no laboratory experience, to whom the revelations of the laboratory assume an exaggerated importance, in consequence of the mystery which surrounds them; and on the other hand, 2, by those whose training assures their position as laboratory experts and whose occupation is of that fortunate stripe, rare in medicine, which results in the demonstration of things. These men for whom I have the most profound respect, naturally regard things from the laboratory standpoint, and being engrossed in it and trained to the primary idea of truth as dependent upon demonstration, are not quite prepared for the consideration of subjects which have as yet no laboratory point of view.

Many of these men have neither the inspiration for, nor the tolerance of the field of speculative medicine, within which however, occur those projected lines, along which the correlation of knowledge for its practical application must occur.

These two reservations are of minor significance except as considered in the light of curriculum, and serve to empha-size merely the indisputable fact that in producing a balanced result, medical reasoners, as complementary to medical investigators, are indispensable.

Our enconium upon the laboratory can not be diminished when we take up the subject of the clinic. Here there opens before us the hope of the future. Though the clinic has always existed, it is to-day in form and in spirit quite different. The general clinic with the full amphitheater, though it remains in the form, is no longer the arena for the demonstration of the prowess, or for the personal aggrandizement of the professor. It is solely for the purpose of bringing the student in intimate contact with the conditions which are to be in the future his perplexities, and as such is capable of being made most effective. The thing, however, which we earnestly crave is the clinic for small classes, the smaller the better.

The first advantage claimed for this is that the student, being permitted to examine the patients, and required to make a diagnosis, becomes immensely strengthened. This is in a measure true, though I believe those who are teaching clinically would agree with me that even this is subordinate in importance to the fact that the interchange of thought between the students and instructors, in immediate presence of the subject, is usual to a degree which in a large class is impossible.

I approach that which is to me at this moment, of somewhat more immediate interest, the recitation.

In this innovation, we find the most signal departure from time honored method, and properly administered the most promising foundation for broad education. I repeat, properly administered, because I am positive that improperly administered it is a source of weakness. I stipulate, among many things, four which are primary to its propriety.

First, that the classes should be small, because we accomplish thereby, in this compactness, manageability, which includes the greater facility in determining the current acquisition of the students. And, second, I would stipulate that the text employed be various. It is necessary, for obvious reasons, to have a uniform text, designated as a skeleton upon which to build, but I am emphatic in my declaration that students should be encouraged to seek the information preparatory to the recitation, from all available sources, and that this exercise should be the meeting ground upon which should be thrown all possible side lights, and upon which should be harmonized, as far as possible, whatever apparent conflict may arise. Thus we lay the foundation for breadth of view.

I approach the third requirement with hesitancy, yet I trust even by my colleagues who are touched by this, that I shall not be misunderstood. I believe that the instructors should be men of experience, more or less according to the subject involved, but with the firm conviction that the more experienced the better. I am sure that no man is so capable of illuminating the obscure path as one who has been lost in it.

The combination of intelligence and sympathy which results from such experience is invaluable to the teacher. To have these conditions satisfied ideally, particularly at the outset of the new regime, is impossible. To build toward them is imperative.

To this end I suggest that every effort be made to retain in the service of the institution the men who justify their relation to it, and at every hand to so dignify their relation that the feeling of responsibility shall reinforce the interest which may flag under neglect.

Fourth, and most important, comes the question as to the relation of the instructor to his class. Shall he be a critic whose function begins and ends with an inquisition as to the presence and industry of his students as evidenced by their ability to recite, which function I would not underrate, or shall he be in addition, an expounder of the subject?

That the latter should be admits of no question.

In the first place because medical literature is unfortunately obscure and needs intelligent presentation. In the second place medical information is shifting and needs a current commentator for the correction of the misconceptions of the past. These facts being beyond dispute, the question simply remains, shall this important work be done by the instructors or by the professor at large, if I may use the term?

Assuming the competency of the instructor, I unhesitatingly select him for the function for two reasons: First, because with the assumed limited class one secures the psychologic advantage of man to man contact. Second, because the essence of instructive analysis is interrogation, which implies a slowness of procedure, and a quality of relationship which is possible only in the class room.

It might be queried in the light of all this disposition of labor into the departments of subordinnte instructors, what becomes of the chief faculty. Are they, in the new adjustment, mere figure-heads? I confess that in the extravagance of expression which one sometimes hears in discussion of the new regime, it might so appear. To me the assumption of higher achievement through the working of the processes just disdussed, implies a field of usefulness for the heads of the departments enormously elevated and dignified. It is true that much of the detail of their labor is cut off. It is true that much of the prominence of a certain kind is removed, but I call your attention to these facts.

In medicine, as in no other field of research, there is at present no such thing as fixed authority. The dictum of no man is better than another's except in so far as the depth of his research or breadth of his experience and the integrity of his reasoning process justifies it. The profession has not to deal with an accumulated mass of settled fact. It has to deal with an enormous reservoir of knowledge, into which flow streams of more or less disconnected observation. But for every drop of fixed knowledge, there is a flood of interpretation, and upon the selection of the instrument of interpretation will rest the value of the store which the student may acquire.

Is the student about to be graduated capable of being his own intrepreter? Is he sufficiently in possession of the facts, and has he the perspective to enable him to wisely select the theory and adopt the practice under such conditions? Assuredly, most assuredly not. Here then lies the highest prerogative of the department head.

To him let it fall to summarize knowledge, to analyze experience, to harmonize conflict. And, in so far as he is fortunately possessed of personality, to so impress himself and his wisdom upon the students that he utter for their provisional guidance a working hypothesis, as indispensable here as elsewhere, which shall bear the stamp of the organic body, which launches its graduates.

DR. HOLMES AS A MAN AND A PHYSICIAN.

By Ephraim Ingals, M. D.

For the greater part of my life I have lived in Chicago and for the first time I have fallen a victim to the confidence operator. A few days since I received a very polite note from Drs. Etheridge, Hyde and Dodson inviting me to this dinner to be given in honor of the retiring President of Rush Medical College, Dr. Edward L. Holmes. I accepted with alacrity, having in my mental vision only the pleasure of meeting Dr. Holmes and other friends. Soon after I came here Dr. Hyde said to me that Dr. Senn was to have replied to the toast "The Influence of Rush Medical College Abroad,"but as he is unavoidably absent, I must take his place. He was deaf to my protestations that it was impossible for me to do so. He told me that I could treat the subject as remotely as I pleased; that I might give you a chapter from the scriptures or follow some line of humor. I was helpless in his persuasive toils and I stand before you. As to Dr. Hyde's first suggestion; did I know each of your individual spiritual needs, I might recite to you a suitable chapter, but as I do not will omit it. If at any time I could enliven such an occasion with any humerous remarks it would be impossible tonight. I came to meet—and, in so far as I could, to assist you in doing honor to—Dr. Holmes, and the thought that his sickness prevents him from being with us casts a sombre shadow over my mind. It has been suggested that we are to have an incomplete rendering of Hamlet; but when I am asked to take Dr. Senn's place in the performance I feel that Hamlet is entirely left out and that I have been impressed not to fill but to occupy his place.

I cannot speak of the influence of Rush Medical College abroad, nor do I need to speak to you of its influence at home, for it is as obvious as the sun at mid-day. It occurs to me, however, that I might properly say something of another institution of which Dr. Holmes was the founder and has been its watchful guardian to the present time. I allude to the Illinois Charitable Eye and Ear Infirmary. It is in my memory from its embryonic ovum until its present mature stature. It was first established in very simple quarters in a poor wooden building standing near the river in the north division of this city. I once heard Robert Collyer, in giving out the church notices from his pulpit say, "The spring is at hand and you will all be renovating your homes and in doing so you will find articles you will be glad to be rid of. Send all such to Dr. Holmes' infirmary, or, if this is inconvenient, notify me and I will see that they find their way there. If it is but a well worn yard of carpet, send it to the infirmary." It had not occurred to me that such a remnant could be of value to any one, but I pictured to my mind a poor patient lying in a scantily furnished room with a bare floor and I realized it would be to him an article of luxury. Dr. Holmes was a member of Mr. Collyer's congregation and I doubt not it was at his request that his pastor solicited these donations.

I might say something of Dr. Holmes personally and his absence will permit me to speak of him with a freedom which his presence would forbid. We have lived side by side more than forty years, engaged in like pursuits, in a close personal friendship that has never for a moment suffered abatement. In this long intimacy I have never known him to utter a word which he should not have uttered nor do an act which he should not have done. Were I to attempt an analysis of his character, I should make his scrupulous honesty the corner stone on which he built. Men possessing rare intellectual gifts, but lacking this are always objects of suspicion and distrust. He inherited strong, though humble blood that flowed down from the early Puritans of New England. It was his mother's grandfather, Major Joseph Buttrick, who opened the war of our revolution at Concord Bridge on the 19th of April, 1775; by giving that historic and unique order to the "embattled farmers" under his command, "In the name of God,fire!" that caused the shot which Emerson said was "heard round the world" and which drew the first British blood that flowed in this sanguinary struggle. Several of the invaders were killed, and their graves still mark the spot where they fell. The Major was thereafter known by the sobriquet of "In the name of God fire Buttrick."

I recall some examples of Dr. Holmes' supersensitive honesty. In the fire that destroyed Chicago he lost with his residence and office everything except his family. When it was apparent that his house was doomed he buried his carpets and some other things of value in a trench on his house lot. After the consuming flames had passed, some miscreant, devoid of the fear of fire both here and hereafter, returned into the still hot embers before Dr. Holmes dared to do so and took all the articles away and the doctor was thus left neither with roof over his head nor carpet under his feet. A more lively exhibition of sympathy and help than we then saw was never witnessed. The mayor of Boston telegraphed us fifty-thousand dollars without waiting to consult anyone and, as Whittier wrote,

"Underneath the severing wave,
The world full-handed reached to save."

Dr. Holmes' native place was Dedham, one of the beautiful suburbs of Boston. Of the contributions to the fire sufferers from this town about one thousand dollars was sent, not to the general fund but as a personal gift to Dr. Holmes. He accepted it and applied it towards giving his family a home. Having done this, as soon as he again earned the money by his professional labors he returned it to the donors. I was told this in Dedham and not by Dr. Holmes.

A physician now present witnessed the following incident. A patient was sent to him for an operation on the eyes which would have given the doctor but little trouble to perform and for which a proper fee would have been one hundred dollars. After examining the case, he said the operation should not be performed for it would do no good and might do harm. To this the patient replied that he did not ask an opinion as to the advisability of the operation. He said that he wanted Dr. Holmes to perform it and stated that he had the money to pay for it. Again he was told that it ought not to be done and he was sent away.

The infirmary he established has blessed many eyes with light that would have been veiled in darkness but for his beneficent ministrations. It was finally adopted by the state as one of its charities and when a committee of the legislature made a tour of inspection of such places some years since they said that they found that every dollar appropriated for its support had been honestly applied.

Dr. Holmes had great humility; he vaunted not himself; he was not puffed up. When as a young man he came to Chicago it would have given him distinction to have been known as a graduate of Harvard, but I did not find it out for a long time. He made the German language as his vernacular, and when, not long since, I asked him how he came to acquire it, he replied that Prof. Longfellow told him if he would find one other pupil to take up the study with him, he would give them private instruction, and so the great poet became his teacher.

He did not make phenominal progress in anything, but the duties before him each morning were behind him at night and the same process was repeated day by day and year by year. He had good judgment and a clear forecast of future events. Among the early medical practitioners in Chicago I remember but two who went abroad for instruction—then so much more essential than now. They were both dependent on their individual exertions for professional and pecuniary advancement; both became eminent and both afterwards filled the office of President of Rush Medical College with distinguished ability. Dr. Brainerd studied in Paris; Dr. Holmes in Vienna. Dr. Brainerd won, in open competition, in that then world's center of medical learning, a prize for a contribution to one of its scientific bodies and Dr. Holmes did still better in Vienna, for he won there a matrimonial companion for life.

For the interests of Rush Medical College, as expressing his great interest in medical education Dr. Holmes sedulously labored. The subject was ever in his waking thoughts and slumbering dreams. I look back with great pleasure on our two score years of the warmest friendship and with added pleasure I look into the future with the absolute assurance that the warmth of this friendship will never be chilled.

RUSH IN THE PAST.

By DeLaskie Miller, A. M., M. D., Ph. D.

"Old Rush" is a phrase frequently heard in all the country when a doctor is asked, "Where did you graduate?" This reply contains almost an emotional meaning. It includes the doctor's pleasant memories of his pupilage. It expresses his admiration, his affection, his veneration and his reverence for his Alma Mater.

Rush Medical College is old, only however when one considers its environment. The earth is old, but there are older planets in our system. Medical colleges have been organized, have conferred degrees, have passed into decline and disorganization and have vanished since Rush began its career. The historian informs us that Rush Medical College was chartered by the State legislature and that the act was signed by the Governor on March 2, 1837, thus antedating by two days the incorporation of Chicago as a city.

The first census of Chicago was taken in July of that year (1837) and returned a population of 4,120. The surrounding country was sparsely settled. "Black Hawk," himself no insignificant brave, had but a few moons before bidden the neighbors good night. Strange, is it not, that the thought of establishing a medical college in such a town, at such a time, with such environments should be entertained by any man or set of men? But the thought was entertained by Dr. Brainerd and a few of his personal friends, and the belief in its feasibility stimulated them to resolve that they would materialize the thought.

Now this is the way it was achieved. It seems to have required about six years to organize and select a faculty. But when the faculty was selected it proved to be a good one. The names of Brainerd, Blaney, Herrick and Evans still live. I knew those gentlemen well and as there are so many present who never saw a member of the first faculty, with your permission I will repeat their names.

I can at will recall a distinct and vivid mental picture of Professor Brainerd as he stood before his class, tall, erect and with a pose that evinced a reserve power equal to any emergency, and I seem to hear the tones of his voice as the mellifluent sentences passed unerringly to the understanding of the students, revealing the similitude to some old Roman in the Senate as he swayed his auditors by the power of his words and the force of his logic.

Doctor Blaney, the Professor of Chemistry, was a type of the accomplished scholar and the polished gentleman, ever affable, always popular. He was an authority in his department and a superior teacher. Doctor Blaney lectured at a time when the students were in the habit of sending down questions to the professor, either to obtain more light on occult subjects, or for other purposes. One day he received from a member of the class the following: "What would be the result if an irresistable force should strike an immovable body?" It was an old "chestnut' but Dr. Blaney had never heard it.

Thereupon he began a philosophical discussion, arguing "pro and con" for some time and, as tradition has it, he concluded that each would yield a little. (It is my opinion that, if the facts could be known, my friend Professor Ephraim Ingals here would be held responsible for that bit of fun.)

Dr. W. R. Herrick was Professor of Anatomy. He was an accomplished anatomist and an excellent teacher. He prided himself on his dexterity in the use of the scalpel. His dissections were works of art, as I can affirm. Skill in dissection is of first importance to the physician and surgeon, for what is a successful surgical operation but a nice dissection? Dr. Herrick would not be taken for a facetious man but on one occasion he came very near it. One morning I went over to hear him lecture. The muscles of the face were to be demonstrated. The professor went on for a few minutes, then stopped suddenly and, turning to the class, said, "Will some gentleman come down and assist me in this demonstration?" After a little waiting a junior came down. Dr. Herrick turned the young man until he faced the class and said, "Now as I describe these muscles, you make faces at the class."

Dr. John Evans was Professor of Obstetrics. He edited the Medical Journal for several years. He wrote an article on "Asiatic Cholera" that was read with interest by the profession at that time. Dr. Evans was a man of affairs. He is probably better known to the present generation as Governor Evans of Colorado, where he spent the latter part of his life.

The first course of lectures began on December 4, 1843 and continued sixteen weeks. At the grand commencement exercises one gentleman received the degree of Doctor of Medicine. This course was given in Dr. Brainerd's office. During the summer of 1844 the faculty erected a college building. The historian tells us it was of brick with stone trimmings. It contained two large lecture rooms besides rooms for chemical, anatomical and other purposes, and was so imposing as to call forth the admiration of the citizens. However what was of far greater importance than the pride of the citizens in this beautiful building was the fact that the professors and their work soon became known to the general profession, who with a single voice decided that the faculty of Rush was entitled to take rank with the best. Students began to throng the lecture rooms. The fame of the institution spread rapidly and its character was established. The classes increased in numbers so rapidly that in a decade the two large lecture rooms became crowded. The faculty then remodeled the building and enlarged it to double its original capacity. Again in another decade there was a demand for more room to accommodate the large classes, and then the faculty erected the annex which was so large and so capacious as to overshadow the original building. Both buildings were now utilized for the purpose of teaching. In these buildings the faculty labored with the utmost zeal and satisfaction, for the profession gave abundant proofs of its approval and confidence.

By the irony of fate this complaisance was short-lived. The earth had made but a few revolutions in its orbit when the great fire came and swept all away, leaving desolation. After the destruction of the college by fire in the general conflagration of the city, temporary quarters were utilized until the faculty succeeded in the erection of the present college building. This answered every purpose for a few years. The classes continued to augment, and so rapidly that more extensive accommodations must be provided. The faculty again, with characteristic courage and energy resolved to supply the demand.

Situated as the speaker is at the present time, he feels that he may speak freely without the feeling of obtrusiveness. In these reminiscences of "Rush in the Past" he has empha, sized the unyielding energy especially of the present faculty, who deserve all praise for self-denials in constructing and reconstructing so many buildings for the college, and for their ability in raising the institution to its present state of prosperity and influence.

It will be remembered that in an editorial in our February issue we mentioned the fact of the formation of a senior society at Rush, stating that one of the first requirements for membership is high standing in the college work. We are glad of the opportunity to again put that statement before the under-classmen, and would call attention to the fact that of its members, seven have hospital positions, three of them being in the Cook County Hospital. We are proud, and justly so, of the record which the present seniors have made for themselves in the competitive examinations for hospital service; also of the Senior Society, which bids fair to become what we predicted, a nucleus from which other and similar organizations may spring.

CONSERVATIVE PATHOLOGY.

FRANK B. HILLER, M. D., '91.

With the hypothesis that many conditions classed as pathologic, are conservative and result in the cure of disease, I offer this paper for your discussion.

How frequent it is in a retrospective view of matters medical or surgical, as presented to us in a given case, that subjects which we considered in superficial and imperfect manner to be of vital and destructive importance as we framed an unfavorable prognosis, have in the end in their more perfect development, proved to be of paramount good or enhancement to the subject considered. This applies with particular emphasis as concerns questions pathologic. To us as medical men in this day when our profession is approaching so near the line of a true science, a clear understanding of the pathology of a given disease placed before us is of primary and chief importance before matters remedial should receive our consideration.

Symptomatic medication is largely being relegated to the rear, and while specific treatment, as applied to the great category of disease, will in all probability never be realized, yet we are more nearly approaching that point as therapeusis advances to meet the demands more completely understood, as pathologic questions have been solved and results given us by the great list of Pasteurs, Kochs, and others.

But, as the title of my paper indicates, it is not so much for the purpose of therapeusis that a pathologic condition should be so completely solved, but believing that certain pathologic conditions conserve to the best interests of the patient, it behooves us many, aye many times to withhold medication and treatment of all kind as we, with folded hands, look upon the more perfect workings of nature in the restoration to health of our patients.

If we regard certain pathologic processes as conservative we certainly have approached, if not over-stepped, that indistinct line which separates disease from health, pathology from physiology, or a pathologic process has become or asserts the function of one physiologic.

Paget tells us that the subjects considered under the term pathology can not be exactly defined, for ease and disease, well and ill, are relative terms, and can not be defined unconditionally.

Certain pathologic conditions present phenomena which are physiologic, conserving to the repair of tissue, compensating for the weakened or lost function of an organ, and neutralizing processes whereby toxines are rendered inert and the economy is restored to health.

To the conditions which might specially be considered in this paper, I have given the following classification or arrangement:

1. "Regeneration," or that condition formerly termed "plastic inflamation."
2. "Compensatory hypertrophy of organs."
3. "Conditions attending fever."
4. "Phagocytosis."

Plastic inflamation as modernly understood is a histologic condition with which we meet almost daily in our routine as general practitioners, and while it is a departure of the tissues from health, and in that respect is pathologic, yet the final result is restoration to the normal, or as nearly so as nature can produce.

We see the conservative element of this plastic inflamation most beautifully brought out in inflamations of the serous membranes; the peritoneum and pleura. An individual because of trauma, infection, or any of the many causative factors of peritoneal inflamation suffers an attack of peritonitis. In this disease, with its appalling symptoms and results, there are many cases known to physicians, and many unknown, in which, while great injury to abdominal and pelvic organs has been done, yet at the same time in the periphery of the diseased zone, a modification of this pathologic condition is performing a work which alone checks the disease and exercises a preservative function; adhesions are thrown out, new blood vessels formed to aid in removing the exudate, and a local inflamation remains. Disease and death are checked. This localizing of peritoneal inflamation is observed in that secondary involvement of this membrane following inflamatory or ulcerative disease of all the abdominal viscera, as about the stomach, liver, vermiform appendix, &c. Thus a pathologic condition in its final workings, asserts itself as a preservative agent.

This same condition applies in many cases of pleural inflamation. The consensus of opinion among modern investigators concerning tubercular pleurisy of secondary origin, that it is only occasionally that a necrotic area of caseous phthisis reaches the pleura and sets up a pneumothorax, but that the most common form of pleurisy attending phthisis is brought about by an irritative toxin inducing a chronic pleuritis covering the surface and preventing pneumothorax, and is thus preservative to no small extent. This same conservative law may be recognized in many diseased conditions of serous membranes, joint cavities, &c.

In the consideration of hypertrophied organs, the fact of discrimination must not be lost sight of, between enlargements which serve an adaptive function, and those where an enlargement exists without a corresponding augmentation of functional activity. The former of these conditions we term "work hypertrophies," the latter, a condition of hyperplasia without increase of force.

All cells of the body tissues, from the beginning of embryonal life are endowed with the inherent function of reproduction. This is manifested in all animal life in the process of growth, because of the property of metabolism with which all animal cells are endowed.

The most simple demonstration of this is in the physiologic process of waste and repair, as shown in the natural body nutrition.

The "work" hypertrophies are the only ones we may in any sense consider conservative, and even in these cases full compensation may never be said to be realized. A heart hypertrophied in consequence of valvular lesion or excessive innervation does not in a perfect sense restore the normal or natural condition of the circulation. It has also been shown that where one kidney has been removed, the remaining one in consequence becomes hypertrophied, but is more readily a prey to disease.

The same rule applies to compensatory hypertrophy of all the glandular system.

(To be continued)

PLASTIC SURGERY IN PROFESSOR SENN'S CLINIC.

In the *Kansas City Medical Index* for January, Dr. Byron Robinson says:

"Dr. Senn is a master in plastic surgery.

To do a perfect plastic operation requires studied methods, mathematical accuracy and geometrical planning. One must learn to estimate curves and squares and know that in general squares coapt more perfectly than curves. Plastic surgery does not praise itself by deficiency from ulcerations nor by flaws from tension necrosis. Perfect coaptation of the outline of flaps requires careful planning.

Dr. Senn possesses a genius in estimating and accurately coapting flap outlines. He is a thorough believer in auto-plastic, in contradistinction to hetero-plastic, surgery. He uses for ligature and suture material, silk, silk-worm gut, catgut, and horse hair.

In his surgical clinic, one may observe the most desperate cases of carcinoma, sarcoma and tuberculosis, collected from wide territory, on which he performs his master plastic operations with a boldness based on anatomic and pathologic facts, the disease is thoroughly eradicated and the deficiency repaired by well planned and well fitting flaps.

These flaps are procured from any adjacent region which will accommodate a pedicle, as on it depends the vitality and life of the flap, and it must contain a liberal blood channel and be twisted as little as possible.

When large flaps become blue or œdematous, Dr. Senn relieves the tension by multiple punctures, whence the transfused serum escapes. Where immense trauma is inflicted on subcutaneous tissue, as in the neck, by extirpation of tubercular glands, Dr. Senn adopts the ingenious method of long, curved, or S-shaped incisions in order to avoid remote irregular cicatricial contractions. The long S-shaped incision distributes the subsequent contractions in the scar more uniformly over a wider field. The best flap to grow successfully is the skin with its subcutaneous tissue. However, Dr. Senn employs flaps containing bone to build permanent bridges of tissue, as in the side or septum of the nose, or to reform a curved eyebrow.

With extensive dorsal tuberculosis of the hand, he makes a large flap on the abdomen unsevered at both ends and so elevated in the middle that the hand is slipped beneath it. The skin and diseased tissue on the dorsum of the hand being thoroughly removed, the subcutaneous portion of the abdominal flap is carefully applied over it, sutured in position and the arm fixed with a plaster of paris bandage. The growth of the flap is watched for a few days when he begins to cut away gradually each of the attached ends in opposite directions so that the establishment of the new circulation will be gradual.

Dr. Senn avoids amputation neuromata by taking out a wedge-shaped piece from the nerve, covering up the wound with the sheath of the nerve and suturing it in position. He has demonstrated, as has also Mikulicz, that removal of a portion of the sterno cleido mastoid muscles does not deprive the head of motions which were originally attributed to that muscle.

He performs a novel flap operation after a surgical procedure for varicocele. He incises the scrotum for two to three inches over the dilated spermatic vein, after ligature and excision of which he sutures the scrotal wound exactly in the opposite direction from which it it is incised. It materially shortens the scrotum and gradually, after radical vein excision is amply sufficient to restore the patient to a comfortable condition. In the knee joint resection he begins at one condyle and passes over to the other below the patella, and saws the patella through the middle. This form of flap allows thorough exploration of the supra-articular spaces. The operation for diastosis of the recti abdominales consists in incising the sheath of the recti muscles on each side and coapting with sutures the corresponding edges of the muscular sheaths, *i. e.*, the two recti abdominales are finally inclosed in one sheath.

The most minute and careful attention is given to suturing. He emphasizes the suturing equally with flap formation and adjustment of the flap.

The master hand in Dr. Senn's plastic surgery is seen in his apt selection of tissue on which to plant his flaps, and his careful management of blood supply in the pedicles. He makes his flaps uniform in thickness, procures them with the least trauma, splits subcutaneous tissue in the direction of least resistance, drops degraded fat and employs straight rather than curved lines.

SYLLABUS OF LECTURES ON THERAPEUTICS.

By Daniel R. Brower, A. M., M. D.

Professor of Mental Diseases, Materia Medica and Therapeutics.

(*Session 1897 and 1898.*)

(Continued from April number.)

ALTERATIVES.

AURI ET SODII CHLORIDUM (gr.1 50—1-10.)

Clarke's Solution, m. 10 gr. 1-15; 0.648-0.003.

Effects:—Internally—small doses increase appetite, digestion, glandular secretions, excretions (urine and perspiration); stimulates nervous system, especially spinal cord; stimulates sexual organs; increases menstrual flow; eliminated by kidneys, liver and bowels.

Uses:—Substitute for mercury in syphilis; chronic interstitial nephritis; cirrhosis of liver; chronic interstitial myelitis; locomotor ataxia; chronic ovarian inflammation; sexual impotence; scrofular phthisis; hypochrondria; melancholia.

℞

Auri et Sodii Chloridi,	gr. iii.	.192
Pulv. Res. Guaiaci,	gr. xc.	6.00

M. Fiat capsules No. 30.

Sig. One one-half hour before meals.

COLCHICI RADIX ET SEMEN.

Preparations:—

Vinum Colchici Seminis,	mx-ʒi.	.64
Colchicina,	gr. 1-100—1-60	.001

Effects:—Internally—small doses increase secretions generally, particularly urine, greatly increasing amount of urea and uric acid eliminated; large doses cause nausea, vomiting, frequent purging.

Uses:—Acute gout, with alkalies; chronic gout and resulting dyspepsia, bronchitis, asthma, neuralgia, etc., rheumatic anthritis.

GUAIACUM.

Preparations:—

Tinct. Guaiaci Ammoniata, mx.—ʒi; .4.00.

Effects:—Diaphoretic, expectorant, alterative, stimulates liver; an ingredient in comp. preparations sarsaparilla.

Uses:—Tonsilitis (rheumatic); neuralgic and rheumatic affections; dysmenorrhea (rheumatic).

OLEUM MORRHUÆ. (ʒi-iv).

Physiologic Action:—Due to iodine, bromin, chlorin, and several glycerides; is easily digested, absorbed and oxidized. It aids in maintaining body temperature, increases body weight and increases the number of red blood corpuscles; olein the principal, is a fat very readily appropiated.

Therapy:—Phthisis, espcially in the early stages; chronic rheumatism; chronic bronchitis; enlargement of lymphatic glands; scrofulosis. Syphilis (advanced); rachitis; neuralgia (sub-acute); emphysema of lungs. In marasmus it may be used by inunction, more readily absorbed if mixed with bile salts.

Administration:—In whiskey or brandy; in emulsion; in capsule; with malt; with hypophosphites; ether aids its digestion; by rectum with pancreatin.

ANTIPYRETICS.

I. Lessening Heat Production.

A. Depressing nutrition by action on protoplasm.
Antipyrine, quinine, carbolic acid, acetanilid, salicylic acid, phenacetine, eucalyptol.

B. Reducing circulation.

1. Generally: Aconite, antimony, digitalis, colchicum, veratrum viride.
2. Locally: Wet and dry cuppage, leeches. blisters, poultices.

II. Increasing Heat Loss.

A. Increasing heat radiation by dilating cutaneous vessels: Alcohol, amyl nitrite, sp. aetheris nitrosi.

B. By sweating: Antimony, ipecac, opium, antipyrine, phenacetine, acetanilid.

C. By direct absorption of heat; Cold baths, packs, sponging, ice cold drinks, enemata.

III. Modus Modendi Uncertain: Purgation, Venesection.

ANTIPYRINE (soluble). grs. v-xxx 0.30-2.00

Effects—1. Lowers temperature in fevers by interference with oxygen carrying function of the blood and by dilating cutaneous vessels. 2. Small doses stimulate the heart and increase arterial pressure. Large doses inhibit muscular action of heart and lower blood pressure. 3. Cerebral sedative, analgesic, dilates pupils. 4. Respiratory system—nil. 5. Causes profuse sweating and in 10 per cent. of cases produces an eruption.

Eliminated by skin, kidneys and bowels.

Uses:—Acute febrile conditions. Neuralgia of 5th nerve, sciatica, analgesic in locomotor ataxia, colic and dysmenorrhoea, chorea, diabetes. Has many antagonists and incompatibilities, and should be given alone.

ACETANILIDUM (Antifebrin-insoluble). grs. iii-v.0.18-0.50.

Effects:—Antipyretic, analgesic, hypnotic, antispasmodic, diuretic.

Uses:—Fevers; painful affections; epilepsy; chorea; nearalgia; influenza.

PHENACETINE. grs. iii-xxx. 0.18-2.00.

Effects:—Like antipyrine but less depressing on circulation.
Uses:—Same as antipyrine but more analgesic.
Neuralgia.—℞ Phenacetin grs. x.
Caeffina citrata gr. 1.

ANTISEPTICS.

Oxygen,ozone--aqua hydrogenii dioxidi ʒi		4.00
Aqua chlori,	ʒi-v	4.–20.00
Liquor sodae chloratae,	mx-ʒi	.64–4.00
Calx chlorata (1 pound to 3 gallons).	grs iii-v	.19–.32
Acidum carbolicum,	grs ¼-i	.016–.064
Sodii sulpho-carbolas,	grs x-xxx	.64–2.00
Creasotum,	m ii-v	.128–.32
Guaiacol,	m ii-v	.128–.32
Benzoyl-guaiacol,	gr ii-x	.128–.64
Creasol (creosoti carbonas),	m xv-ʒi	1.00–4.00
Guaiacol carbonate.	grs ii-x	.128–64
Salicinum,	grs v-ʒi	.320–4.00
Acidum salicylicum.	grs v-ʒi	.320–4.00
Sodii salicylas,	grs x-ʒi	.640–4.00
Salol.	grs iii-ʒi	.192-4.00
Resorcinum,	grs v-xv	.320–1.00
Creolin (external use).		
Antipyrine,	grs. v-x	.320–.640
Pyoktanin.	1 to 500 topical	
Naphthalinum,	grs i-x	.064–.640
Betanaphthol,	grs i–v	.064–.320
Saccharinum,	grs v-xx	.320–1.32
Acid boricum,	grs ii-v	.128–.320
Tincture benzoini composita,	grs v-ʒss	.320 2.00
Acidum benzoicum,	grs v-ʒss	.320–2.00
Sodii benzoas,	grs v ʒi	.320–4.00
Acetanilidum,	grs iii-x	.192–.640
Antiseptic oils,	m iii-v	.192–.320
Oleum caryophylli,	m iii-v	.192–.320
Oleum gaultheriae,	m ii-x	.128–.640
Thymol.	grs ½–ii	.032–.128
Menthol,	grs i-ii	.064–.128
Formaldehyde (1 per cent solution)		
Hydrargyri chloridum corrosivum,	grs 1-60—1-6	.001–.01
Bismuthi subnitras,	grs v-xx	.320-1.320
Bismuthi subgallas,	grs v-xx	.320–1.32

THERAPY OF INFECTIOUS DISEASES.

SCARLET FEVER.

A self-limited disease.

1. Rooms (two). Commodious and well ventilated.
2. Hypotrophy. Prescribe potassii chloras, tinctura ferri chloridi, acidum hydrochloricum dil. and syrupus tolutani.
3. Hypotrophy and to prevent migration of white corpucles. Prescribe quininae sulphas and pulv. capsici.
4. To soooth and disinfect skin.

℞

Acidi carbolici	ʒi	4.00
Olei eucalypti	ʒi	4.00
Olei olivae	℥vii	225.00

5. Disinfect fauces. Alcohol, peroxide of hydrogen (1 to 4), formaldehyde (½ per cent sol.)
6. Reduce temperature by cold baths, tubbing, rectal injections.
7. Avoid antipyretics.
8. Diet.
9. Laxatives.

DIPHTHERIA.

Local before constitutional. (Klebs-Löefler bacillus).

1. Isolation.
2. Local antiseptics. Peroxide of hydrogen, alcohol.
3. Feeding.
4. Tonics. Potassii chloras, ferrum.
5. Laxative. Calomel and sodii bicarbonas.
6. Hydrargyri chloridum corrosivum.
7. Intubation.
8. Tracheotomy.
9. Serum therapy. Antitoxin—600 units.

TYPHOID FEVER.

Self-limited.

1. Prophylaxis. Conveyed in water and milk.
2. Room. Quiet, large, light, airy. Two rooms.
3. Two trained nurses.
4. Calomel in early stages.
5. Diet.
6. Tubbing. When body temperature is above 102.2° F. use water at 95° F. and cool it to 70° F.
7. Intestinal antisepsis. Salol, thymol, HCl dil.
8. Alcohol—with extreme caution. 3 to 10 ounces.
9. Strychnia.

DISINFECTANTS.

PHYSICAL AGENTS.

Free ventilation.

Heat. 140° F. fatal to all pathogenic bateria except tubercle bacillus (212° F.) and Athrax spores (212° F.)

Cold does not destoy.

Sunlight fatal to most.

Electricity fatal to most.

Dessication destroys many but not the tubercle, diphtheria, or typhoid bacillus.

CHEMICAL AGENTS.

1. Mercuric chloride 1–1000 destroys spores.
   1–20000 " bacilli.

   Albuminous substances render it inert.
2. Carbolic acid. 2 per cent. solution destroys all pathogengic bacteria by prolonged contract.
3. Quick lime.
4. Sulphur dioxide, acid sulphurosum (moisture necessary—3 lbs. to 1000 cu. ft. in 12 hours).
5. Chlorine, 1–100 in the pressence of moisture.
6. Iodine, 1–500 solution.
7. Calx chlorata, 1–100.
8. Hydrogen Peroxide.
9. Tannic Acid. 1.3 per cent. sol. destroys cholera spirillum.
   1. 6 per cent. " " typhoid bacillus.

ANIMAL EXTRACTS.

Red bone marrow in Anemia.

Dessicated thyroid in Myxodema, Alopecia, Obesity, Goitre, Exophthalmic Goitre. Psoriasis, Urtiacaria.

Pituitary body in Lupus, Acromegaly.

HYPNOTICS OR SOPORIFICS.

Remedies which induce sleep.

Normol sleep is resultant of (a) cerebral anemia, (b) functional inactivity of cerebral cells.

The first may be produced by:

1. Position.
2. Vascular tonics which contract blood vessels.
3. Diverting blood to intestinal canal.
4. " " " cutaneous surfaces.
5. " " " lower extremities.
6. Brisk walk before retiring.

Chief hypnotics are opium and alkaloids, chloral, bromides, hyoscine, cannabis indica, humulus, lactucarium, sulphonal, chloralamid.

OPIUM.

Composition very complex. 16 alkaloids. 3 most important are morphine, codeine, thebaine. 3 acids, the most important being meconic acid.

Preparations:

Tinctura opii	m xii	.768
" " deodorata,	m xii	.768
" " camphorata,	ʒi	4.00
Pulv. ipecac. et opii,	grs x	.64
Extractum opii,	grs ss	.032
Morphinae sulphas,	grs 1-12–½	.005–.032
Codeine	grs ¼-ii	.016–.128

Effect:—Analgesic, hypnotic, diaphoretic, antispasmodic, narcotic, cardiac and respiratory depressant after brief stimulation.

Contracts pupil from stimulation of 3 nerve.

Depresses reflex centers.

Slows pulse—increases arterial tension.

Diminishes saliva, causes nausea, vomiting, retards peristalis.

Eliminated by kidneys, skin. May cause pruritis—especially of nose.

Uses.—To relieve pain; to produce sleep; to allay irritation of bronchi, stomach, and bladder; to check excessive secretion; to support; to produce diaphoresis. Used in diabetis mellitus; gastric cancer; ulcer; inflammation; acute and chronic diarrhoea; peritonitis; dysentery; acute Uremia (hypodermically); acute catrrh (10 grs. Dover's powder); rheumatism; gastralgia; spasms; dyspnoea; angina pectoris; colics; acute meningitis and mania; melancholia; hemorrhage—especially uterine.

Differentiation:

1. Opium poisoning—pupils contracted, respiration slow and stertorous (4 to 5 per minute), pulse slow and feeble, face pale with bluish tinge.
2. Alcoholic coma—pupils contracted when patient is undisturbed but slight irritation dilates, pulse quickened; examine urine, breath.
3. Uremic coma—skin waxy and oedmatous, eyelids puffy, urine albuminous, legs and feet swollen.
4. Apoplexy—pupils dilated unequally, conjugate deviation of head and eyes, rectal temperature subnormal, arms when raised fall unequally—one rigid and one flaccid, patellar tendon reflex differs on two sides.

Contraindications.

1. Childhood until age of 5. Must give with caution.
2. Blocking of bronchial tubes by excessive secretion.
3. Congestion of the brain.
4. Advanced kidney diseases.

CHLORAL grs.-v-xx 0.30–1.20

Effects:—Hypnotic, motor depressant, cardiac sedative, antiseptic.

Uses—Locally—5 per cent solution as an antiseptic in suppurating wounds, parasitic skin affections, to check itching. In eczema and prurigo. Combined with camphor and oil of cajuput, it is an anodyne and counter-irritant.

Internally—Insomnia, chorea, convulsions, epilepsy, tetanus, hydrophobia, seasickness; eliminated by kidneys and lungs.

Antagonists:—Strychnine and atropine:

Contraindicated when heart is weak.

BROMIDES.

Potassii bromidum	grs v ʒi	0.32–4.00
Sodii "	grs v ʒi	0.32–4-00
Ammonii "	grs v-x	0.32–0.64
Lithii "	grs v-x	0.32–0.64
Zinci "	grs ss-ii	.0,32–.128
Acidum hydrobromicum dil.	ʒss-i	

Effects:—Cerebral and spinal depressants, alteratives, antispasmodics. hypnotics. Large doses or prolonged use produces ''bromism,'' manifested by acne, faucal anaesthesia, general anaemia, mental hebetude, malnutrition, loss of sexual power.

Eliminated by skin, kidneys and mucous membrane unchanged.

Uses:—Insomnia due to cerebral hyperemia, epilepsy, convulsions, dental irritation, night terrors in children, delirium tremens, nymphomania, masturbation, priapism, chorea, strychnine antidote, spasmodic asthma, to prevent bad effects of opium.

SULPHONAL. grs. xv-xl

Effects-—Hypnotic slowly affecting but may be prolonged. May produce unpleasant secondary effects such as mental excitement, nausea, vomiting, dizziness, headache and death from failure of respiration.

Uses:—Insomnia—give in hot water.

Chorea—Combine with arsenic.

Diabetes Mellitus—grs xv–xxx daily.

Nocturnal emissions.

CHLORALAMID. grs x-xx.

Effect:—Similar to chloral but less depressing, less irritating to stomach and kidneys.

Therapy:—Same as chloral.

Insoluble in water—must be given in whiskey, brandy or some alcoholic mixture.

℞

Chloralamid	grs xxx	2.00
Tinct. Cardamomi Comp.	ʒii	8.00
Elixer Simplicis	ʒii	8.00

Mx et Sig.-ʒii-ʒiv at a dose.

For sea-sicknesss:—

℞	Chloralamid	grs xv	1.00
	Sodii Bromidi	grs xx	1.33

Mx et Sig.—Take immediately on going on ship and maintain a recumbent position for 24 hours. Be careful in selection of food and keep bowels well open.

HYOSCINE HYDROBROMATE. gr. 1-100-1-60 .0006-.001

Effects:—Hypnotic. Lowers pulse rate and lessens frequency of respiration. Large doses depress motor tract of spinal cord and cerebral cortex. Respiratory paralyzant. Tasteless.

Uses—Insomnia, acute mania, delirium tremens, sexual excitement, nymphomania, spermatorrhoea, too frequent emissions, paralysis agitans, spasms.

NYMPHOMANIA.

Requires moral, hygenic and medicinal treatment. Can be satisfactorily carried out only in hospital for nervous diseases. Make one examination of organs—for endometritis, ovaritis, congestion or chronic inflammation of external genitals or ascarides. Frequent examination to be condemned.

Drugs—Bromides, Camphor. Hyoscine.

MASTURBATION.

No more injurious than sexual intercourse if practiced to the same extent. Excessive indulgence results in impotence from exhaustion of nerve centers and from hyperaesthesia and congestion of prostatic urethra—followed by anaesthesia of same. Most successful cure is a happy marriage May sometimes be stopped in children by circumcision. In girls by correcting some unhealthy condition of genital organs. Free purgation, removal of thread worms, abundance of exercise, unstimulating food, avoid quack literature, give bromides.

MYDRIATIC ANODYNES.

Drugs that dilate the pupil; analgesic; antispasmodic and act on cerebral nerve cells producing delirium.

Belladonna, Strammonium, Hyoscyamine, Dubosia, Coca; and their alkaloids.

BELLADONNA.

Ext. Belladonnæ Foliorum (alcoholicum),	gr. $\frac{1}{8}$-$\frac{3}{4}$	.008–.048
Tinct. " "	m v-xx	0.30–1.20
Emplastrum "	20 per cent	
Atropiæ Sulphas,	gr. 1-20–1-40	.0005–.0016

Physiological Action—Locally—anodyne, antispasmodic, antisecretory, mydriatic. Internally—in full doses, flushing of face. redness and dryness of fauces, dilated pupils, erythematous rash, delirium. It is a mydriatic, antispasmodic, adonyne.

In small doses cardiac, respiratory, and spinal stimulant. Increases peristalsis.

Large doses depress cardiac and respiratory centers and spinal cord.

Decreases all secretions except urine. Eliminated by kidneys and bowels.

Antagonists—Muscarine, physostigmine, pilocarpus, aconite. opium. Incompatible with caustic alkalies, tannin and vegetable infusions containing tannin.

Uses—Check secretion in night sweats; ptyalism; bromidrosis of feet; secretion of milk; leucorrhœa. As an antispasmodic—torticollis; spasm

of intestines; cramps in legs and body; asthma; whooping cough; spasmodic dysmenorrhœa; rigidity of cervix uteri in labor; habitual constipation.
As an anodyne—neuralgia; muscular rheumatism; conjunctivitis; myalgia; incontinence of urine in children.

HYOSCYAMUS.

Tinctura Hyoscyami,	m x-ʒi	0.60–4.00
Extractum " ,	grs i-iii	0.06–0.20
Hyoscinæ Hydrobromas.	grs 1-100–1-60	.0006–0015

Effect—Similar to belladonna but less irritating, more hypnotic.

Uses—Anodyne for children; incontinence of urine; vesical tenesmus; prostatitis. Colic; acute mania; delirium tremens; hysteria; chorea; tremors; paralysis agitans; hypochondria; asthma; whooping cough; cough; constipation.

Coca—Extractum cocæ fluidum,	m xx-ʒi	1.20–4.00
Cocainæ Hydrochloras	grs ⅛-ii	.008 0.12

Uses—Local anæsthetic (2-10%) to mucous membrane or injected into subcutaneous tissues. Hay fever. Internally—stimulant in fevers; in mental strain, vomiting of pregnancy, sea sickness, gastrodynia, substitute for morphine.

DEPRESSO-MOTORS.

GLONOINUM.

Spiritus Glonoini,	m i-iii	0.06–0.18

Effect—Similar to amyl nitrite but more enduring and less rapidly developed.

Uses—Epilepsy; chorea; angina pectoris; chronic interstitial nephritis; cardiac syncope; cardiac dyspnoea and threatened cardiac failure.

AMYL NITRITE (inhalation) m ii-v 0.12–0.30

Effect—Powerful nervous depressant and produces sudden relaxation of blood-vessels. Lowers blood pressure, stimulates heart. Depresses cardiac inhibitory apparatus.

Uses—Epilepsy (aura); angina pectoris; general or local spasms; migraine—with local vaso-motor spasm; renal asthma.

ACIDUM HYDROCYANICUM (dilutum). m i-v

Effect—One of the most powerful poisons known. Depresses—brain, spinal cord, respiration and circulation.

Uses—Coughs of spasmodic character; vomiting; gastralgia; irritable stomach; enteralgia.

PHYSOSTIGMA.

Extractum Physostigmatis,	grs 1-12-½
Tinctura Physostigmatis,	m v-xxx
Physostigminæ Salicylas	grs 1-64–1-20

Effects—General paralyzant. Direct depressant to motor tracts. Slows pulse. Depresses respiration. Stimulates peristalsis. Eliminated in urine.

Uses—Tetanus; trismus neonatorum; epilepsy; chorea; habitual constipation.

CONIUM.

Extractum Conii alcoholicum,	grs ii-x
Tinctura Conii	m x-ʒi
Coninæ Hydrobromas,	gr. 1-60

All uncertain in action.

Effects—Depress motor nerves, circulation and respiration.

Uses—Chorea; acute mania; delirium tremens; spasmodic diseases.

GELSEMINUM.

Tinctura Gelsemini	m v-xx

Effects—Depresses cord and circulation. Respiratory paralyzant.

Uses—Puerperal eclampsia; neuralgia of 5 nerve; migraine-combined with cannabis indica; pneumonia and pleurisy—sthenic cases; asthma; localized muscular spasm; spasmodic dysmenorrhoea. Contraindicated where heart is weak.

EXCITO-MOTORS.

NUX VOMICA—Strychnine and Brucine

Strychninæ Sulphas,	gr 1-30–1-12
Strychnanæ Hydrochloras,	gr 1-30–1-12
Strychninæ Hydrobromas,	gr 1-30–1-12
Strychninæ (hypodermatically),	gr 1-60
Extractum Nucis Vomicæ,	gr 1-6 ¼
Tinctura Nucis Vomicæ,	m ii-xxx

Effects—Stimulates motor and sensory tracts of spinal cord—in over doses it causes tetanic convulsions, paralysis, and increases acuity of vision and hearing. Stimulates heart muscle and ganglia and increases arterial tension Stimulates genito-urinary system. Stimulates respiratory centers increasing rate and capacity. Increases alimentary juices and peristalsis. Eliminated slowly by urine, sweat and saliva. Some oxidized and destroyed in liver.

Uses—Convalescence from acute diseases; chronic gastric catarrh; intestinal indigestion; constipation; neuralgia (of stomach and uterus especially); alcoholic and tobacco amaurosis; dyspnœa; cardiac disease; opium poisoning; in vomiting of pregnancy, hysteria, suppressed menses, uternie disease (small doses of tincture); paralysis (when no rigidity–early or late–, when lesion is healed and when electro-contractility is present; impotence; incontinence of urine.) Contra-indicated in inflammation of spinal cord.

POISONING BY STRYCHNIA—Spasms are tonic, trismus is late symptom.

Differentiation.

Epilepsy—Spasms first tonic, later clonic.

Tetanus—Trismus first symptom.

Hysterical convulsion—Facies hysteria.

Treatment.

1. Evacuate stomach by using tube or apomorphia.
2. Chemical antidote—Tannic acid.
3. Physiologic antidote—Chloral hydrate and K Br.
4. " " —Amyl nitrite by inhalation.
5. Empty bladder.

ANAESTHETICS.

Agents which destroy sensation.

LOCAL—Cold; cocaine; carbolic acid; ether spray; iodoform; ethyliodide.

GENERAL—Chloroform; ether; nitrous oxide; methylene bichloride; ethyl bromide; ethylene bichloride.

Cautions against general anaesthetic—old drunkards; brain tumor and abscess; large tonsils and oedema glottidis; pulmonary emphysema; fatty degeneration of heart; incomplete anaesthesia.

Causes of death—epileptiform syncope; paralysis of respiration and of heart.

In alarming cases—stop inhalation; invert patient; dash cold water in face; artificial respiration; faradic current; inject atropine.

CHLOROFORM.

Spiritus Chloroformi,	m xx-ʒi	1.3— 4.
Mistura Chloroformi,	ʒi-℥i	4. —31.

Linamentum Chloroformi.

Eliminated by lungs and kidneys.

Effects—Nervous system—first affects brain, then sensory and motor tracts of cord, then sensory and motor paths of medulla, producing death by effect on respiratory centers. Circulation—produces dilatation of heart, depresses heart and causes death by paralysis of heart. Lowers temperature. Pupils—contracted during safe anaesthesia, dilated when anaesthesia becomes dangerous.

Uses—Local sedative, antiseptic and counter-irritant.

(a) Externally—liniment and hypodermic in neuralgia; spray in open cancers.

(b) Internally—in biliary and renal colic; in labor; pertussis; chorea; hernia tetanus, strychnine poisoning; convulsions; congestive chills; vomiting; gastric and intestinal flatulence; tapeworm; irritative coughs.

AETHER.

Spiritus aetheris compositus ʒss–i 2.—4.

Effect—Local anodyne. Internally—increases secretions of stomach, salivary glands, pancreas; cerebral and cardiac stimulant. Inhalation—1. Stage of stimulation. 2. Stage of narcosis, 3. Stage of anaesthesia 4. Stage of paralysis.

After effects are headache and vomiting. Eliminated by lungs and kidneys.

Uses—Tetanus; syncope; flatulent colic; hepatic and renal colic; hysteria; worms; with oil in phthisis; chorea—on spine.

NITROUS OXIDE. (Laughing gas).

Effects—Makes arterial blood venous;induces artificial asphyxia; anaesthesia shown by stertor and muscular twitching. Avoid its use in Bright's disease; advanced life; atheromatous degeneration of blood vessels.

Uses—Anæsthetic in minor operations (safest of all anaesthetics); melancholia; neurasthenia.

CARDIAC STIMULANTS.

ALCOHOL.

Effects:—Stimulants; anæsthetic; antiseptic.

1. Cutaneous system—irritant; toughens skin.
2. Nervous system—small doses stimulate at first, later depress. Large doses paralyze vaso-motors directly, depress brain and lower centers producing inco-ordination; anaesthesia.
3. Circulation—small dose stimulates heart muscle and increases rapidity as well as force of beat. Large doses depress and finally paralyze.
4. Respiration—small doses stimulate, large doses paralyze.
5. Alimentary system—small doses increase secretion of gastric juice and promote digestion. Large doses congest mucous membranes and weaken digestion.
6. Temperature is lowered. Alcohol completely oxidized into H_2O and CO_2 to the extent of ℥ii.
   Urea and carbonic acid increased.

Uses:—Externally—evaporating lotions to toughen. Gargle in pharyngitis. Local in diphtheria. Internally—feeble digestion; old age; convalescence; vomiting (champagne); cholera infantum and diarrhoea (burnt brandy); cardiac depression due to acute diseases, to vegetable and animal poisons, snake-bite and dissecting wounds. Typhoid fever; typhus fever; diphtheria; phthisis; neuralgia; insomnia.

Good effects:—Moist tongue and skin; lowered temperature; improved pulse; less delirium; sleep.

Injurious effects:—Continued use of small doses cause disorders of congestion and hepatic function—increasing connective tissue which obliterates secreting structure—hence primary enlargement and secondary cirrhosis of viscera. Fatty degeneration of heart and arterial walls. Epilepsy, amauroses and insanity may result from protracted use.

ALCOHOLISM.

Treatment:—Chronic—isolation of patient; gradual withdrawal of alcohol; strychnine; atropine; capsicum; cinchona.

AMMONIUM.

		gm.
Liquor ammonii acetatis (Sp. Mendereris)	ʒi—iv	4—16
Ammonii carbonas	grs. iii—x	.2—.60
Ammonii chloridum(no effect on heart and respiration).	grs. ii—xx	.13—1.3
Spiritus ammonii aromaticus,	ʒss—i	2.—4.

Effects:—Locally—irritant (except chloride); stimulates nervous system, increases heart's action; stimulates respiration and expectoration; promotes perspiration; increases secretions generally. Eliminated by kidneys, broncho-pulmonary mucous membrane and skin.

Uses:—Externally—vesication; rubefacient; stimulant; bites and stings of insects; restorative in fainting, narcotic poisoning and chloroform narcosis; coryza. Internally—cardiac stimulant; headache from gastric acidity; inebriety; bromidritis; scarlatina (variable); muscular rheumatism; neuralgia of fifth nerve, intercostal neuralgia, chronic hepatic disease, acute functional liver disorders (chloride); 3 stage pneumonia; HCN poisoning; hysteria; atheroma.

DIGITALIS.

Extractum digitalis,	gr. ¼—½	.015--00.03
Tinctura "	m v—xx	.1-- 1.33
Infusum "	ʒ ss—iv	2.--16.

Effects:—Moderate doses slow and strengthen heart's action, raise blood pressure and cause diuresis. Large doses cause sickness, vomiting, muscular weakness, labored respiration and death. Digitalis lowers temperature, depresses sexual apparatus, contracts uterus and arterioles. Eliminated by kidneys.

Uses:—Cardiac stimulant in organic diseases of heart when compensatory hypertrophy is not complete (tincture); irritable heart; palpitation; pneumonia; hemorrhage; diuretic--(infusion); dropsy—cardiac and renal; menorrhagia; spermatorrhoea. Contraindicated in simple hypertrophy and in fatty heart.

CAFFEINAE CITRAS. (grs. i—v.) (.06--.3)

Effects:—Cardiac and renal stimulant. Increases pulse rate and raises blood pressure. Cerebral and spinal stimulant—makes people "nervous". Increases diuresis by direct stimulation of secretory epithelium—increases solids as well as liquids. Diminishes tissue waste.

Uses:—Cardiac stimulant—indications same as for digitalis. Chronic Bright's disease; dropsy—cardiac and renal; opium poisoning; headache due to nerve strain (combine with phenacetine or bromides. Contraindicated in acute Bright's disease.

CIMICIFUGA (fluid extract). mx—ʒi.

Effects:—Cardiac stimulant in small doses. Contracts unstriped muscle fibres. Stimulates digestion, secretion, general functions and uterus.

Uses:—Chorea; cardiac diseases; neuralgia (especially ovarian); rheumatism; bronchitis—subacute and chronic; uterine tonic (previous to delivery); impotence.

STROPHANTHUS.

Tinctura strophanthi	m i—x	.064—0.64
Strophanthinum	gr.	1-120—1-60

Effects:—Promotes appetite and digestion. Cardiac tonic--slows heart beat and lengthens interval between contractions—increases energy of muscles. Does not produce vaso-motor constriction of arterioles. Diuretic by direct stimulation of renal circulation. Strophanthinum is a local anaesthetic.

Uses:—Cardiac stimulant especially in *mitral disease* not compensated; dyspnoea of old people; Bright's disease—for dropsy, dyspnoea and uremia; palpitation; exophthalmic goitre; pulmonary oedema due to valvular disease or to pneumonia; diuretic in cardiac and renal dropsy.

SCOPARIUS AND SPARTEINE.

Extractum scoparii fluidum,	℥i	32.00
Sparteinae sulphas,	grs. 1-20—ii	.003—.128

(2) alkaloids—scoparine and sparteine. Action depends on sparteine.

Effects:—Depresses motor tract of brain and spinal cord. Quickens pulse rate, raises arterial tension and increases force of contraction. Medium dose has no effect on respiration.

Poisoning:—Trembling, inco-ordination, clonic and tonic convulsions followed by general enfeeblement.

Uses:—Palpitation; Grave's disease; paralysis agitans; asthma; cardiac dropsy.

ADONIS AESTIVALIS AND VERNALIS.

Ext. adonis vernalis (fluidum),	m i—ii	.064—.128
Tinct adonis aestivalis,	m v—x	.320—.640
Adonidin,	gr. 1-20—1-5	.003—.012

Physiological action resembles digitalis.

Uses:—Mitral and aortic regurgitation; functional irregularity; cardiac asthma.

℞

Potassii Bromidi	ʒii—iii	8.-12
Tr. Adonis Vernalis	ʒi	4.
Codeinae Sulphatis	grs. iii	.2
Aquae	qs. ad. ℥viii	256.

Mx. fiat solution.

Sig: ℥ss 4 to 8 times a day.

Obesity and fatty degeneration (tinctr., adonis aestivalis).

HEART DISEASE.

Valvular. Digitalis. 1. Increases nutrition of heart muscle by trophic influence of pneumo-gastric. 2. Prolongs diastole. 3. Increases force of systole. Best results in mitral regurgitation and mitral obstrtction; next aortic stenosis and of least benefit in aortic regurgitation.

Cardiac Dropsy. Calomel and potassium iodide. Purgation by magnesium sulphate.

Diuresis—diuretin (ʒi daily).

Sudden Cardiac Failure. Ammonia, strychnine, alcohol.

Palpitation. Forbid tea, coffee, tobacco and excessive venery; regulate diet; intestinal antiseptic; iron, arsenic; correct every departure from health; uterine ailment.

SIMPLE HYPERTROPHY. Avoid stimulating; give aconite and veratrum viride.

FATTY HEART. 2 forms. 1. Fatty degeneration of fibres (give arsenic). 2. Fatty deposit between fibres (diet, exercise, adonis vernalis and nux vomica).

CARDIAC DISEASE WITH ANEMIA. Iron; arsenic; simple bitters.

DIGITALIS accumulates and should stop occassionally or give only one dose a day.

Mitral regurgitation—more force to ventricular systole overcoming leakage into auricle.

Mitral obstruction—prolongs diastole giving more time for blood to pass from auricle to ventircle.

Aortic obstruction—more force in ventricle necessary.

Aortic regurgitation—Digitalis usually fails because prolonged diastole gives more time for backward flow. Strophanthus or adonidine do better.

CARDIAC SEDATIVES.

ANTIMONIUM.

Antimonii et potassii tartras	(diaphoretic or expectorant) gr. 1–16-–1–6 (emetic gr. i every fifteen minutes.)
Syrupus scillae compositus,	m v—ʒi
Pilulae antimonii compositae (alterative), Plummer's pills	
Calomel and antimony	aa gr. ss

Effects:—Locally—pustules formed.

Internally—sedative and paralyzer; increases secretions from bronchial tubes; cardiac sedative; produces emesis, occassionally diarrhoea; produces diaphoresis. Eliminated by kidneys and mucous membranes.

Toxicity:—Produces prostration. Antidotes—tannin, stimulants.

Uses:—Delirium tremens; bronchitis; broncho-pneumonia; croup; pertussis; tonsilitis; orchitis.

ACONITUM.

Tinctura aconiti,	m i--v.-.06--.3
Aconitine,	gr. 1–300—1–200
Aconitine liniment (grs ii to ℥i).	

Effects:—Locally—numbness, tingling.

Internally—paralysis of reflex and motor power of cord; diminishes and eventually paralyzes respiration; at first slow heart's action; diminishes blood pressure causing feeble, rapid pulse, irregular, at least heart stops in diastole. Produces diaphoresis; polyuria.

Eliminated by kidneys.

Antidotes:—Charcoal; tannin; alcohol; hypodermic of digitalis.

Uses:—In the place of phlebotomy; in tonsillitis, pharyngitis, incipient inflammations; pericarditis; pleuritis; neuralgia; nephritis after scarlitina. Avoid in heart disease; old age. In ointment avoid abrasions, fissures, and mucous membranes.

VERATRUM VIRIDE.

Tinctura Veratri Viridis, m ii--x-.12—.64
Unguentum Veratri.

Effects:—Causes prostration of muscular power; lowers pulse and tension; vomiting and purging. Antidotes--alcohol and ammonia.

Uses:—Acute pneumonia and pleurisy; pericarditis; puerperal eclampsia; acute mania; superficial neuralgia.

CORRECTIONS OF SYLLABUS IN APRIL NUMBER.

Page 242—Dyllabus—Syl.
Pepsinnum (pura)—(purum)
Ingluvin—Ingluvinum.
Page 243—Tinct. gentain. comp.—gentainæ compositæ.
Cardamum—cardamomi.
Sodium bicarbonate—sodii bicarbonas.
Page 244—Pepsinæ puræ—pepini puri
fiat in—fiant.
Ferri Pyrophosphates—pyrophosphas.
Page 245—Potassii Permanganum—Permanganas.
Arseniosi—Arsenosi.
Arsenias—Arsenas.
Arseniict—Arseniet.
Arsenii—Arseni.
Page 246—Prophy lactis—prophylactic.
griping or—griping of.
Page 248—quinin—quinine.
Salol (phenylsalicylate)—phenyl—
" " grs. v—ounce i—grs. v--xv
Page 250—sesil—exsiccatus.
tonsilitis—tonsillitis.
Page 251—Tinct. Iodine—Iodi.
selerosis—sclerosis.

At the last meeting of the Chicago Pathological Society, F. H. Russell, '99, presented a most interesting paper on an epidemic which occurred among the laboratory frogs. Last October a new lot of frogs were obtained and put in the tank with those kept over from the preceding year. In a short time both new and old frogs began to die rapidly. Russell found that the epidemic was caused by the bacillus hydrophilus fuscus. This organism was found in the blood and all the organs of the frogs. When innoculated into healthy laboratory frogs, death resulted in from two to twelve hours, depending on the susceptibility of the animals. That the bacillus produces powerful toxins was demonstrated by heart and muscle tracings shown at the meeting. Besides the tracings, cultures in various media, and also photographs and drawings, showing flagella and areas of insular necrosis in the various organs, were demonstrated. A peculiar lesion in the frog was the inter-muscular hemorrhages with the destruction of the muscular fibers. This hydrophilus fuscus is a water organism, and it is possible that it may be found to be the cause of lesions in the human being.

The Corpuscle.

EDITORS.

P. A. WAKEFIELD. Editor-in-Chief.
J.P. SEDGWICK, B. S., Secy. and Treas.
J. V. WHITE, 1900. N. W. JUDD, A. B. W. MURRAY, 1900.

Communications relative to advertisements and subscriptions ($1.00 yearly to undergraduates) should be addressed and remittances made by money order, draft or registered letter, to C. E. Judd, Business Manager, 93 Flournoy St., Chicago.

RUBY RED AND BLACK: Colors of Lake Forest University. ORANGE: Color of Rush Medical College.

EDITORIALS.

THE AMERICAN MEDICAL ASSOCIATION.

The Denver meeting of the American Medical Association is to be held early in June at a time and place than which there is none better for the physician's summer outing. Rush alumni should be especially interested in this association—an association in which so many prominent Rush men are important leaders, e. g., Prof. Senn, ex-president, and Prof. Hamilton, editor of the Association *Journal*, with others we might mention—and every physician should be a member of this national organization. A large number of the most prominent medical men will be present and present papers, assuring an excellent scientific program, and members and their families are to be entertained royally. With Denver attractions and numerous excursions planned to the most scenic points in the Rocky mountains, it will be well worth the physician's while to take time to attend this meeting, and at the same time gain rest and strength amid the beauties of the Rockies. A very low rate has been made with ample limit for return, and numerous special trains have been arranged for to enable one to make the trip with most congenial traveling companions.

CONCERNING OURSELVES.

The Editorial Board have decided to issue THE CORPUSCLE hereafter throughout the year, thus making the volume comprise twelve numbers. Heretofore there seems to have been no definite rule concerning the issuance of summer numbers, and subscribers have not known whether to expect them or not. The volume will hereafter end with the June and begin with the July number, thus beginning the volume at a time when most Alumni pay their annual dues, and we have much interesting matter in view besides full reports of the Commencement week festivities, to appear in early issues. This announcement will be read with pleasure by all members of the Alumni Association, and tend to strengthen the Association, which all alumni should join on leaving college. We call the attention of our readers to an announcement in another column concerning the Alumni Association. During the past months we have been very much crowded for space, so many good things have been offered, while advertisers have appreciated our growth and enabled us to make promises for still further improvements in coming issues. When we speak of improvement we do not refer to our April number, a compilation to make the gods weep, when one considered the typographic errors therein. Apologies are useless now, but we *would* like to explain—our printer was ill (he has now recovered) and his substitute failed to make the corrections after the page proofs were returned to him, which was not known to us until the issue was sent us for mailing. Elsewhere we note corrections of the more grievous typographic errors which appeared, and promise that the printer will not be ill again when our forms are being made up.

RUSH DEBT.

Rush Medical College is free from debt and its complete affiliation with the University of Chicago is now practically assured. Members of the faculty and other friends of the institution have gone deep into their pockets, and liabilities amounting to $71,000 have been wiped off the ledgers. Most prominent in the roll of honor are Dr. Ephraim Ingals, Dr. Nicholas Senn and Dr. E. Fletcher Ingals. To the first two is credited the bulk of the donations.

The splendid donations just announced have deep significance for Rush as well as for the University. When the affiliation was announced by President Harper of the University of Chicago, the first of the year, he distinctly stated that it was conditional on the wiping out of the debt of $71,000, the change in the methods of choosing trustees, and the advance requirements for students. It is understood, although President Harper did not say so at the time, that Rush College had until June 1 for the erasure of the debt, and, if need be, a year longer. The munificence of the donors came as a complete surprise to the board of trustees as well as to President Harper of the University.

At the University of Chicago the news was regarded as the last link between the University and a medical department. It was believed on the campus that now that the medical college is free from debt friends of both institutions who are anxious to see a great medical school in Chicago will come forward with ample means to realize the ambitions and hopes of both schools.

Rush Medical College will bring to the University a faculty of seventy-seven members and 700 students. The faculty contains some of the most noted men known to medical science. The University of Chicago also required that in future the board of trustees should not be made up from members of the faculty, which has been practically the case until now. This will be changed and the new board of trustees will be made up of representative business men. With these changes the affiliation become complete.

COOK COUNTY HOSPITAL APPOINTMENTS.

On Friday afternoon, April 15th, the result of the annual competitive examinations for interneship in the Cook County Hospital was announced. The honors were about equally divided this year, if we consider the number of applicants from the various colleges. Following is the result as announced at that time:

1. J. M. Neff—Physicians and Surgeons.
2. H. Gideon Wells—Rush.
3. C. M. Matter—Chicago Medical.
4. E. L. Macewen—Rush,
5. C. J. Rowan—Rush.
6. E. A. Irwin—Rush.
7. H. M. Bench—Chicago Medical.
8. J. Bourke—Rush.
9. J. Flemming—P. and S.
10. H. Eugene Allen—Rush.

11. H. A. Page—P. and S.
12. M. Gilroth—Women's Medical.

1st Alternate. Otto Pagelson—P. and S.
2nd Alternate. S. R. Johnson—P. and S.
3rd Alternate. L. Witherspoon—P. and S.
4th Alternate. Mrs. Lapham—Women's Medical.

It will be noted that Rush men received six places; P. and S. men three places and three alternates; Chicago Medical men two places; the Women's Medical, one place and one alternate.

As a whole the papers this year were better written than last year. The highest mark received was 609 points, Rush's favorite (Wells, '98) being a close second with 600 points. The CORPUSCLE extends congratulations to all who were fortunate enough to obtain a place and is justly proud of the records which the Rush men made. Six seems to be a favorite number with Rush and we rejoice that the reputation established in previous years was so well sustained by the C. C. C. men of the present senior clsss.

PRESBYTERIAN HOSPITAL APPOINTMENTS.

On Friday, April 22, the examinations for interneships in the Presbyterian Hospital were held. Neither time nor space will permit us to say much in regard to them. There were thirteen aspirants and all wrote creditable papers. We take pleasure in announcing the following successful candidates;

1. A. F. Stevenson, Jr.
2. F. B. Hollenbeck.
3. F. E. Pierce.
4. H. Dietrich.
5. A. Kohn.
6. H. J. Dern.
7. H. W. Horn, } Substitutes and Alternates.
8. V. F. Marshall, }

THE CORPUSCLE congratulates the above-named gentlemen and also the hospital in securing so good a force of internes.

OTHER HOSPITAL APPOINTMENTS.

Among other hospital appointments which have been secured by Rush men are the following:

Augustana—H. Fehr, '98 and J. Earle Harris, '98.
Alexian Brothers—Dr. Austin, '97.
St. Elizabeth—Theo. Wilde, '98 and Kramps, '98.
St. Lukes—O. A Burton, '98.
Chicago Hospital—S. J. Brown, '98.

THE CORPUSCLE rejoices with all.

Alumni Department.

JAMES B. HERRICK, A. M., M. D., EDITOR.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to THE CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Cihcago.

Dr. E. J. Mellish, '86, has opened an office in the Columbus Memorial Building, 103 State St., Chicago.

Dr. James Warren Van Dershie, '93, was married April 12, to Miss Lillie Typhena Read. They will reside at 968 Park Avenue, Chicago.

Dr. Charles E. Clark, '86 who is located in Kansas City, Mo., was in the city this week attending the meeting of the Rhinological and Opthalmological Association. He is specializing there in diseases of the nose and throat. He is a loyal Rush man.

Dr. Louis W. Toles, '97, located in Grant, Mich., two months ago. He reports the outloook flattering, and that he is already doing a good deal of work.

Dr. E. A. Johnson, '97, who located at Mahomet, Ill., on graduating, has now removed to Danville, Ill.

Dr. J. J. Bowen, formerly Western Ave. and 18th St., Chicago, is now Medical Examiner of the Relief Department of the C. B. & Q. Ry., and located at Hannibal, Mo.

Dr. Frank B. Hiller, '91, has favored us with a paper on "Conservative Pathology," which will appear in THE CORPUSCLE. The Doctor says: "THE CORPUSCLE reaches me every month and is the most welcome of all my medical journals, because through its columns I can keep in touch with my 'Alma Mater.'"

Dr. O. S Misick, '94, is doing credit to his class and "Alma Mater." The *Journal of Pathology and Bacteriology*, Edinburgh and London, contained in its January issue an article from his pen entitled "A Case of Teratoma Hepatis."

The following will interest the '97 men: Tillison James Wood '97, and Louie May Strong, married, Wednesday, March 30, 1898, at Huron, South Dakota. Dr. Wood will be remembered by many who are now in Rush, and who join with THE CORPUSCLE in wishing the doctor much joy.

OBITUARY.

Dr. P. C. Beoghter, class '95, died at Middlepoint, Ohio, March 23, 1898, from a cerebral abscess complicating suppuration of the mastoid cells.

DEATH OF DR. LYONS.—Dr. Ira E. Lyons, Huntington, Ind., an active practitioner for many years, settling in this county in 1863, is dead. He was a native of Delaware by birth, seventy-six years old. Removing to Muskingum County, Ohio, in 1843. For ten years, beginning in 1884, he was a member of the faculty of the Fort Wayne Medical College. William Lyons, a son, besides two daughters, survive him. Dr. Lyons graduated from Rush Medical College in 1864.—*Indiana Med. Jour.*, March.

DEATH OF DR. S. C. HAM.—Dr. Ham was born at Waverly, Ill., Nov. 3, 1852, and was married in 1878 to Mattie E. Crosthwaite. He studied medicine with Drs. Moore and Barnes, of Decatur, and afterwards took a full course and was graduated from Rush Medical College. After his graduation he practiced in Clay Center, Kan., removing to Auburn, Ill., in 1891, where he died, of pneumonia, February 22. Dr. Ham had been a staunch Republican all his life. He had a large library and was well versed in all the leading topics of the times, and was always found on the right side of all moral questions. In his death Auburn loses one of her most noble-hearted, public-spirited citizens.—*Journal*, Springfield, Ill.

DEATH OF DR. CONKEY.—We are under obligations to Dr. J. J. Ratcliff, Decorah, Iowa, for the following clipped from the Decorah *Republican* of Feb., 1898:

Preston, Minn., Feb. 7.—News was brought to this village last night that Dr. Robert Conkey, of Canton, Minn., had taken his own life, first by opiates and then by stabbing himself to the heart. He was a student at the State University of Minnesota, but finished his medical course and graduated at the Rush Medical College, of Chicago, last summer. He was a son of Hon. C. H. Conkey, of this village, and gave promise of a successful career. No cause for the suicide can be given by his friends.

TO THE ALUMNI.

Dear Doctor:—We invite your participation in the following program which has been arranged for the entertainment of the Alumni of Rush Medical College during Commencement week, May 23, 24 and 25, 1898:

Monday, May 23, at 10 a. m., Prof. Henry M. Lyman will conduct a clinic in General Medicine in the upper amphitheater of the college building.

At 11 a. m. a clinic in Gynecology with operations will be given by Prof Jas. H. Etheridge.

At 2:30 p. m. a clinic in Skin, Venereal and Genito-Urinary diseases will be given by Prof. Jas. Nevins Hyde.

At 4 p. m. the class-day exercises of the class of 1898 will be held in the upper amphitheater.

Tuesday, at 9:30 a. m., will occur the annual scientific meeting of the Association, in the upper amphitheater. The following program has been provided:

1. Dr. Lloyd M. Bergen, '89, Highland Park, Ill., "The Diatetic Management of Diarrheal Diseases in Infancy."
2. Dr. John A. Robison, '80, Chicago, Ill., "Modern Methods of Diagnosis."
3. Dr. F. W. Epley, '77, New Richmond, Wis., "Hygiene of the Maternal Font."
4. Dr. Wm. P. McGovern, '82, Cedarburg, Wis., "Some Diseases Common to Man and Animals."
5. Dr. C. D. Wescott, '83, Chicago, Ill., "What Should the General Practitioner Know About the Eye?"
6. Dr. Thomas Fitzgibbon, '82, Milwaukee, Wis., "Metritis."
7. Dr. A. E. Baldwin, '78, Chicago, Ill., "Some Deformities of the Face and How to Prevent Them."

The variety of subjects and the reputation of the several Alumni who are to take part insures an interesting meeting. Immediately following the scientific program, the annual business meeting of the Association will be held.

At 1 p. m., in the dissecting-room in the laboratory building, there will be a demonstration of Surgical Anatomy on the cadaver, by Prof. Arthur Dean Bevan. The laboratories of Chemistry. Histology, Bacteriology, Experimental Physiology and Materia Medica will be open, and subjects of special interest will be demonstrated.

At 2 p. m., Prof. Nicholas Senn will give a surgical clinic

Tuesday evening has for several years been set aside for a theater party. It has been impossible to make suitable arrangements this year with any good attraction in the city and it will therefore be dispensed with.

Dr. E. L. Pettyjohn, of Alma Sanitarium, has taken in hand a reunion of the class of '82 at this Commencement. Members of the class will be notified of such arrangements as have been made with reference to this reunion.

We have the pleasure of announcing that Dr. Senn will tender a reception to the graduating class and Alumni at his residence, 532 Dearborn avenue, to which a cordial invitation is hereby extended, It is quite possible that this reception may not occur, as Dr. Senn will be among the first to offer his services to our country in the war with Spain.

Wednesday morning, at 10 a. m., a surgical clinic will be given by Prof. John B. Hamilton.

At 2 p. m. the graduating exercises of the class of '98 will take place at Central Music Hall. The Doctorate Address will be delivered by Geo. S. Burroughs, D. D., L. L. D., President of Wabash College, Crawfordsville, Ind.

At 8 p. m., the reception and joint banquet of the Faculty and Alumni will be held at the new Grand Pacific hotel. Those who are expected to deliver addresses at the banquet are: Dr. J. R. Barnett, Neenah, Wis., President of the Association, who will preside; Judge T. A. Moran; Rev. P. S. Henson, D. D.; Pres. Burroughs of Wabash College; Dr. R. W. Webster, of the class of '98, and a representative from the class of '82. It is expected that Prof. Wm. R. Harper, President of the University of Chicago and Rush Medical College, will be present and address the Association. This meeting will be the first since the affiliation of Rush Medical College with the University of Chicago, and will be, in a measure, the celebration of that event, which promises so much for the future of medical education in the west.

Those of the Alumni who expect to attend the banquet should notify the Secretary immediately, as it is necessary to know the number to be provided for. Tickets may be obtained of the Secretary at Rush Medical College on and after Monday, May 23, after 9 o'clock a. m. The dues of the Association, $1.50, are now payable. Will you kindly send the amount to the Secretary by mail, without further notice, or they may be paid at Commencement time.

We cordially invite the Alumni to be gresent at all of these exercises. Yours for "Old Rush,"

JOHN EDWIN RHODES,
Sec. & Treas. Alumni Ass'n.

34 Washington St., Chicago.

Since writing the above letter Dr. Rhodes informs us that arrangements for a theatre party have been made. It is to be on Monday evening, May 23, at McVicker's. The play, Shenandoah, with Otis Skinner and many of the original members of the company in the cast, gives assurance of a pleasant evening. Tickets, which may be procured at the box office up to 4 p. m., on that day, are $1.00 When buying, state that you wish to be seated with the Rush Alumni members. A large part of the best seats in the house will be reserved.

"I THOUGHT YOU DIDN'T KNOW, THAT'S WHY I ASKED."

"Gentlemen be quiet."

"This leads us up to the mother in pregnancy."

"We sometimes smile. We never laugh."

"Practically."

"However."

"When I was in Cook County Hospital."

"And thats all there is of that."

"It is important to be able to outline the fisure on the chest wall; to outline the fisure on the chest wall. It begins at about the fourth rib; at about the fourth rib."

"A long tin neck."

"So; So: Beautiful result."

"About where I have my finger now."

'I will now shut."

"More of this when we come together again."

ITEMS OF INTEREST.

Prof. Haines has been in Washington, D. C., gaining rest and strength from his recent illness.

Dr. Geo. A. Stevenson, '65, Rising Sun, Ind., visited Rush a few days ago, with his son, a student in the College of Physicians and Surgeons of this city.

Dr. S.——To what extent are the lower extremities of a four months old foetus developed?

Y.——I don't remember.

In Medicine:—What is the definition between the eruption of measles and of scarlet fever.

Mr. J.——Scarlet fever is most punctuated.

Stuart, class 1900, took a sojourn of two weeks in the Presbyterian Hospital to recuperate after an operation performed by Prof. Hamilton for removal of exostosis which had given him much discomfort.

H. G. Wells and C. J. Rowan, '98, will spend some weeks in the East before entering on their duties at the County Hospital.

H. G. Jones, Saltzgaber and T. A. Evans, all '99 men, left April 22 for their respective Ohio homes, to be on hand for military duty when ordered to the front. R. M. Young, '00, also left for his home where he is junior steward of the hospital corps.

Students accustomed to buying the CORPUSCLE from month to month will find an announcement on another page concerning future numbers. Regular subscribers should not fail to advise us of summer address, before leaving Rush. Each month a number of students change their address, neglect to notify us, and their CORPUSCLE can not be delived. A little forethought, now that so many are leaving, will save us much trouble. Changes will reach us if placed in one of the CORPUSCLE boxes or mailed.

The College of Physicians and Surgeons, our neighbor, has held its sixteenth annual commencement, its first as a Department of the University of Illinois, at the Grand Opera House. There were 110 graduates. Eleven students won a place on the role of honor, having maintained a yearly average of 95 per cent.

Prof. Senn left a few days after giving the seniors their final in his subject, to attend a number of medical meetings. On the 19th inst., he read a paper at the American Surgical Association, at New Orleans. on the "Etiology and Classification of Cystitis." He is also to present a paper before the State Medical Society, at Columbus, O., early in May. Prof. Hamilton took charge of his clinics during his absence.

The excellent work of Wells, '98, on the thyroid gland, has become widespread. Several citations from his paper appear in an article now running in the *Colorado Medical Journal*, by Dr. J. T. Eskridge, of Denver, on "Some of the Therapeutic Properties of the Thyroid Gland." Wells has a paper in the *N. Y. Medical Journal* of March 26, entitled "Preliminary Report of a Case of Blastomycetic Dermatitis."

Prof. Bevan's paper on "Gallstones; Cholelithiasis," recently presented before the Chicago Medical Society, is printed in full in the *Chicago Medical Recorder* for April. Prof. Senn's "Complications and Sequelae of Gallstones" appears in the same issue, and his paper on "Transcapular Amputation." In the March issue may be found "Results of Antiseptic Treatment in Largyngo Pulmonary Tuberculosis" presented before the society by Prof. Ingals. Other works of our professors before this society and to be found in recent issues of this publication are: "Four Cases of a family type of Exophthalmic Goitre," by Prof. Brower; "Report of a Case of Concretio Cordis and Mitral Stenosis, with Recurrent Laryngeal Paralysis from Pressure of Fibrous Bands and an Enlarged Left Auricle," by Prof. Herrick; "X-Ray Detection of Stone in the Kidney," by Prof. Bevan, and "A Very Simple and Convenient Sterilizer," by Prof. Hotz.

At the meeting of the Chicago Pathological Society, April 11, Prof. Hektoen presented a paper on "The Fate of Giant Cells that form in the Absorption of Foreign Bodies."

The Association of American Physicians meets at Washington, D. C., May 3, 4, and 5. On the program we notice: "The Diffuse Infiltrating Form of Secondary Melanosarcoma of the Liver" by Prof. L. Hektoen, and "Some Usually Overlooked Physical Signs in Chest Diseases" by Prof. Norman Bridge.

Prof. Senn recently favored each member of the senior class with a reprint on "Surgical Treatment of Intestinal Obstruction" and Prof. Ethridge presented each a reprint of his paper on "The Relation Between Some Perineal Lacerations and the Neurasthemic State." There is no Rush man but would appreciate reprints of articles by these and any of our professors and no better place for our professors to place such from their pens, if they would have them most appreciated.

Several of Rush men have left with the 2nd and 7th regiments and are now in camp at Springfield. Among them are H. E. Stevenson, W. F. Vilas, Gammon, W. R. Davidson, C. E. Daniels, H. Stahl, Ralph Early, Little and E. C. Franing.

The leper, Siferus, concerning whose case the Chicago press has had much to say, was recently brought before Prof. Hyde's clinic by Dr. Riley of the Health Department. As there is no longer any doubt about the diagnosis, the Health Department will consider his return to Greece or some means of caring for him here.

The CORPUSCLE can offer you a bargain in a perfectly new first-class surgical chair or table, or medicine cabinet, of the best make, or in cameras.

Dr. Ellet Orrin Sisson, Professor of Anatomy and Director of the microscopic and bacteriologic laboratories, College of Physicians and Surgeons, Keokuk, Iowa, paid special attention to our laboratory methods on a recent visit to the college.

We are in receipt of the Keokuk Medical College Annual, published by the class of '98. It is neatly gotten up, containing illustrations of the college buildings, clinics, several classes and members of the faculty. It reminds us of the balmy days when our "Pulse" beat. We would like to see it beat again, and would earnestly urge the present sophmore class to consider the matter. Our annual was a great credit to the class and especially to the Board of Editors. We are sorry it was discontinued.

The Government, in its present naval preparations for possible war with Spain, is confronted with a deficiency in trained men for various branches of the service. One of these is lack of naval surgeons.

BOOK REVIEWS.

A TEXT-BOOK ON SURGERY, GENERAL, OPERATIVE AND MECHANICAL. By JOHN A. WYETH, M. D., Professor of Surgery in, and President of the Faculty of the New York Polyclinic Medical School and Hospital, etc. Third edition revised and enlarged, pp. 997. New York: D. Appleton & Co., 1898.

This text-book has since its first appearance in 1886 been favored by students and practitioners everywhere. The first edition lasted four years when, in 1890, the second edition was published. The third edition recently published has been thoroughly revised and rearranged bringing the matter down to date.

Perhaps no better idea of the scope of the work could be given than to quote from the preface to this last edition. Accordingly we print the following: "The introductory section is devoted to surgical pathology, subdivided into six chapters, which treat of inflammation, process of repair in various tissues of the body; specific and non-specific urethritis; erysipelas and actinomycosis; glanders, tetanus, milignant edema, hydrophobia, tuberculosis, syphilis, leprosy, diphtheria, typhoid infection, are also embraced in this portion of the work. Chapters 7 and 8 are devoted to surgical dressings, sterilization, asepsis and antisepsis, and anesthesia. In chapters 9 and 10 much attention is given to hemorrhage, wounds, burns, skin-grafting, frost bite, furuncle, carbuncle, ulcers and gangrene. Bandaging is given in chapter 1I. Chapter 12 is devoted to amputations. Chapters 13, 14 and 15 deal with lymphatic vessels, glands, veins, arteries, aneurism and ligation of vessels. Chapters 16 and 17 give the lesions of the bones and joints and various operative measures for their correction. Chapters 18 to 29 inclusive are devoted to regional surgery, and in that portion of this section in which the abdomen is concerned, many improved changes have been made and much new matter added. Chapter 30 takes up deformities and their correction, while the final chapter, 31, is devoted to the subject of tumors."

The work is profusely and excellently illustrated, containing 938 figures. The index is most thorough, making any part of the subject easily accessible.

TREATISE ON DISEASES OF WOMEN, FOR THE USE OF STUDENTS AND PRACTITIONERS.—By Alexander J. C. Skene, M. D., LL. D., Professor of Gynecology in the Long Island College Hospital, Brooklyn, N. Y., etc., etc. Third edition revised and enlarged; 290 engravings, and 4 plates in colors; pp. 991. New York: D. Appleton & Co., 1898,

This is the third edition, revised and enlarged with 290 engravings and 4 plates in colors. The former editions were issued in 1888 and in 1892. Advances in no department of medicine have been more rapid during this time than in gynecology. Many new and useful appliances have been added to the gynecologists armamentarium.

The discussion of vaginal and abdominal hysterectomy is full and complete, and the author has described the latest and most improved methods of these operations in a manner easily comprehensive.

Of the value of the control of hemorrhage in surgical procedures by compression and electric heat, he has given a practical discourse and made clear the details. The electric hemostatic forceps devised by Skene, as shown in pages 427 and 431, is clearly a great advance over the use of the ligature in the performance of vaginal hysterectomy.

The degree of heat is not sufficient to produce an eschar, but 170 to 190 F. The length of time which the electric hemostatic forceps are applied varies from 30 seconds to 2½ minutes, depending on the thickness of the tissues to which the forceps are applied.

He has so clearly set forth the use of the endoscope, and cystoscope as described, as to bring these instruments more completely within the grasp of the general practitioner.

With 978 pages of reading matter printed in clear type on good paper, it forms a nice volume and one to which every practitioner should have access. The arrangement of the subject matter is such as to make the work very commendable.

PUBLISHER'S NOTES.

MEDICAL EXCURSION IN JUNE—DENVER TO SALT LAKE CITY. The Medical Excursion in June will leave Denver for Salt Lake City—the Zion of the new world—on the last day of the meeting and the two successive days via the Rio Grande Western Railway in connection with the D. & R. G. and Colo. Mid. lines. The rate will be but $18.00 for the round trip, offering a trip of 1500 miles through the Rocky and Wasatch Mountains. No European trip of equal length can compare with it in grandeur or wealth of novel interest. Salt Lake City and vicinity is one grand sanitarium. The Great Salt Lake or Dead Sea of America with its magnificent bathing resort, the Hot and Warm Springs, Drives, Parks, Canyons and Reserves are all located in or about the city. Send 2 cents to F. A. Wadleigh, Salt Lake City, for copy of pamphlet.

Students accustomed to buying the CORPUSCLE as issued, can have the four summer issues, June, July, August and September, mailed to them at the special rate of $.45, the regular price of three issues, by handing the amount to one of the editors, or sending it to 93 Flournoy St., Chicago. Better send a dollar and get the CORPUSCLE the entire year, twelve numbers. The actual number of copies subscribed for will be printed, so it will be necessary to have your order early if you wish the complete volume, as we can not guarantee to supply back numbers later on.

PUBLIC OPINION: 3,000 papers in one, for three months for 25 cents—You can feel the great pulse of the United States by reading *Public Opinion*, which quotes opinions from Atlantic to Pacific on all important questions. In no other way can you become familiar with the sentiment of every state and with the opinions of every faction in every state. President McKinley, Senator Allison, Senator Hanna, Hon. Wm. J. Bryan, the Governor of Canada, and the Spanish Legation at Washington are among the recent subscribers for *Public Opinion.* They want it because it gives the public opinion of the United States. Doubtless you will conclude to send us 25 cents for three months' subscription. Paper will be stopped at expiration of this time. Regular subscription price, $2.50 per year. Sample copies free.

Frank Leslie's Popular Monthly for May containes a stirring poem on Cuba, by Joaquin Miller and "Naval Warfare of To-day," the most complete and best illustrated description of this much-talked-of topic that has yet appeared. There are twenty-five half-tones of our warships. with a colored frontispiece of the *Maine*.

"Columbia's Athletics," in the April *Outing*, will be read with interest by all college men, while "The Building of Lawn Tennis Courts" will answer many preplexing queries at this season of the year.

The *Overland*, San Francisco, is running a unique peice contest in amateur photography. The prizes are awarded bimonthly throughout the year.

No one interested in the best contemporary French literature can afford to miss the series of sketches and stories by Paul Bourget, in *The Living Age*. These sketches have been but recently published in France, and this is their first appearance in English dress. They are extremely clever.

Imperial Granum has won the confidence of physicians because many years of clinical experience have proved it to be a form of nourishment that is acceptable to the palate and to the most delicate digestion at all periods of life. It is successful, not only as an aliment for children, but its rare nutritive excellence in inanition due to mal-assimilation, chronic, gastric, and enteric diseases, has been incontestably proven.

ELLSWORTH D. WHITING, M. D.

The Corpuscle.

Rush Medical College, Chicago, Ill.

In Affiliation with the University of Chicago.

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PROF. A. C. COTTON'S PEDIATRIC CLINIC.

REPORTED BY DR. I. LANGE, CHIEF ASS'T.

I. RACHITIS. Myrtle M., 2 years old, is one of four living children, the oldest of whom has some malformation of his lower limbs. Myrtle was breast-fed for three weeks after birth, afterwards she lived upon condensed milk, crackers, tea and coffee. The sagittal suture was open from the anterior to the posterior fontanelle at birth. She is brought here on account of inability to walk and because she always had some cough; last summer she had cholera infantum four or five weeks. We find that she sits up without trouble, but cannot stand. In the sitting posture you observe an angular dorsal curvature, thoracic lateral sulci, flaring of the ribs, enlarged epiphyseal ends of large bones, retarded dentition, only ten teeth, fontanelle still patent, cervical glands somewhat enlarged, prominent forehead, a muscular atonic condition. She now eats cereals almost to the exclusion of nitrogenous food, a violation of the vital rules presenting suitable food for this period of development, both mentally and physically.

As to the etiology of this disease—deserving more consideration than any I know of—we find that the absence of fat is the greatest factor in the production of it. Rachitis is most frequent at the age of from 6 months to 2 years, at a time when the breast milk becomes poor in quality and the child is weaned and fed a mixed diet, which is improper for it.

The early symptoms of rachitis are not pathognomonic, but restlessness at night, a disinclination to play, constipation and head sweating are very suspicious. Bending of the ribs and craniotabes are certain signs, the latter is more often found in cases complicated by syphilis. The enlargement of the long bones is an inflammation of the epiphyses as shown in the beaded ribs and enlarged wrist and ankle joint. The bending and the green stick fracture give rise to deformities, so often noticed in legs and arms. The flat bones show proliferation as shown in the square shaped head, the outline being polygonal instead of rounded.

We have frequently occasion to observe a diminution of the antro-posterior pelvic diameter in obstetrical cases resulting from early rachitis. The kyphose and lateral curvatures, so often met, are the result of relaxation of the ligaments. The deformed thorax is caused by the external atmospheric pressure—fifteen pounds to the square inch—upon the soft ribs and cartilages. The pigeon breast is seen when in addition to the rachitis there exists respiratory obstruction. The enlarged abdomen, constipation and diarrhœa are due to the deficient muscular tone.

The nervous system also shows grave affections. Convulsions, laryngismus stridulus, tetany are not infrequent.

Rachitis is rarely fatal, however, if uncomplicated and guarded from intercurrent affections, spontaneous recovery is frequent. The therapeutic agents should improve nutrition, hence cod-liver oil inunctions are valuable, cream internally with a proper dietary to prevent gastro-intestinal derangements; fresh air, sunlight, proper bathing and clothing.

I. *Multiple post-diphtheritic paralysis*—Frank Anderson. age 7 years, had measles last spring, scarlet fever during first year of life. Jan. 20 was taken sick complaining of difficulty in swallowing and soreness of throat. At the same time swellings appeared on both sides of neck. Physician in attendance called the trouble tonsillitis. At the end of two weeks boy was around, swelling in neck disappearing. About this time mother noticed that boy did not speak plainly and that liquids, on attempting to swallow same, ran out of nose—about three weeks ago began to complain of pain in right eye and for several days told his mother that everything seemed double that he looked at, or that he saw two objects instead of the one he looked at. He also complained of slight pains in legs and had ifficulty in walking, which has since increased. Examination shows: Right sided diplopia, decided change of voice, nasal twang, right toe inverted, proneal paralysis of both sides, right patellar reflexes diminished, no change of sensation. The movements of the soft palate are not as free as usual. Old writers in medicine were either general of diphtheritic paralysis or they vaguely alluded to it when they described the extreme debility which sometimes accompanies or follows diphtheria. This paresis at times affects any or all voluntary muscles so that the child cannot stand or sit up or even raise his head.

Dr. Samuel Bard, of New York, in 1771, related the first case of this kind in America. A girl of 2½ years had recovered from a diphtheritic sore throat. When she attempted to drink, she was seized with a fit of coughing, yet she was able to swallow solid food without any difficulty. She improved but in the second month she could scarcely walk or raise her voice above a whisper. Over half a century elapsed without any mentioning of this form of paralysis in the writings on diphtheria, possibly owing to the particular type of this disease at that period.

Trousseau recognized this sequel as one of the results of diphtheritic poison in 1852, although he had seen a marked case in 1833 and one equally severe in 1846, but refused at that time to see anything more in the case than a coincidence.

The frequency of its occurrence must be approximated, since the fatal cases do not live long enough to suffer from it; ten to fifteen per cent is a rough estimate however.

In most instances diphtheritic paralysis is a late symptom or a sequel, occasionally it is the only manifestation of the operation of the poison, diphtheria having existed in so mild a form that it escaped notice.

The muscles affected by diphtheritic paralysis atrophy as in other forms of paralysis, perhaps not so marked as in poliomyelitis or saturnine poisoning.

Knee-jerk in many cases of diphtheria is absent from the very first day of the illness; it is also the most frequent of the paralytic symptoms and appears to have the longest duration.

The fauces present a motionless or relaxed velum with the uvula resting on the tongue, deprived of its tonicity. Paralysis of the palate terminates favorably with few exceptions. Death may occur from inanition from dysphagia. Among the most noteworthy of the paralyses resulting from diphtheria are those pertaining to the eye. The levator palpebrae, the the muscles of accommodation, and motor oculi are paralyzed in some cases, causing dropping of the eyelids, strabismus, indistinct and double vision.

We recognize four forms of diphtheritic paralysis—first, the abolition of the tendon reflexes, the most frequent earliest and least dangerous; secondly paralysis of palate, occurring as early as the third day of diphtheria, but more common during convalescence; thirdly multiple paralysis, like the case presented here today, in which various muscles are paralyzed, and lastly cardiac paralysis, the most dangerous of all cases, which have puzzled physicians; cases in which the post-mortem examination has revealed an apparently healthy state of the heart, deficient innervation being the only explanation we have.

III. *Infantile atrophy*—Elma R., 7 months old, weighs 11 pounds, was taken from asylum two days ago, is restless and fretful, has diarrhœa and vomiting, coughs slightly. Its mother died of septicemia after birth of this patient. This baby never received the breast, fed on diluted cow's milk and recently on condensed milk, after which it vomits, has had four greenish, watery, odorless bowel movements in last 24 hours and is fed whenever it cries. Inspection shows a dry, cadaveric wrinkled skin like an old man, with absolute loss of elasticity, sunken, partially open eyes, showing pearly sclerotics, skimmed milk like, instead of the rich milk color. Temp. 102. Resp. 20. Pulse 120. Complete emaciation with semicomatose hebetude; no abolition of reflexes. Here then is one of those numerous cases of inanition with gastro-entiritis, where improper food caused a condition of glandular atrophy, the consequence of which is an inability to dissolve the casein clots. Water reduces the percentage of cow casein, but diminishes the sugar of milk, as was done in this instance at first. Such procedure is warranted when a good quality of cow's milk is added in moderate proportion to the milk of the mother the quantity of which is insufficient.

But the alimentation designed for man it not suitable for a child before the age of six months, and so much stronger still is the reason for avoiding the use of preserved milks, prepared more or less by dessication. When milk coagulates in the stomach of a child under the fermentative influence of the gas tric juice, the condition of the precipitated casein varies according to the source of the food. Woman's milk gives a pulverulent deposit, that of the cow a precipitate in mass, or clots, and the suckling does not easily tolerate this latter form of deposit.

Laboratory milk is used extensively of late with success in infant feeding. It is prepared in a method by which fresh cow's milk, while still remaining a fresh, milk is changed as to its constituent elements of fat, milk sugar and albuminoids to suit the digestion of infants; it is so nearly sterile as to be safe.

In prescribing this milk we order the number of feedings the amount of each feeding, infant's age, weight, alkalinity and heat, also percentage of milk sugar, albuminoids and mineral matter.

This baby should have 5½ ozs. for each feeding, fat 3.75 per cent., sugar 6.50 per cent., proteids 1,75 per cent.

As to medication, arrest fermentation, possibly a little calomel will be all you need. If nothing will be tolerated by the stomach give raw meat juice or egg albumen with sterilized water, ice cold, give in teaspoon does, supplement by rectal ailmentation, adding a little tonic to tone up articulation, nurse it delicately, greasing the dry harsh skin. One word about feeding bottles in these cases. The quality and quantity of the food may be ever so good or sufficient, and if given from a feeding bottle, death may result. The time is still distant, it seems, when all feeding bottles, however perfected they may be, and however clean they may appear, will be *proscribed*. More than half of the mothers find the present feeding bottle very convenient. This unlucky apparatus is a nest for disastrous microbes responsible for all the infections. Accustom the babies to spoon feeding.

CONSERVATIVE PATHOLOGY.

FRANK B. HILLER, M. D., '91.

Kahoka, Mo.

(Concluded.)

Whittaker, of Cincinnati, in an article in the *International Medical Magazine*, in summarizing a review of the subject of hypertrophied heart, states that from whatever cause it may occur, it is a condition differently interpreted by pathologists and clinicians. The latter consider it as compensatory, while the former, of the modern school, never look upon it as physiological, but always as an indication of disease.

To my mind the middle ground between these two views will more readily bring us to correct conclusions: That "work hypertrophies" *are pathological conditions, yet serve physiological purposes*, if such an expression may be used.

As to the third topic of my classification—"Conditions attending Fever." During the past few years the significancce of fever as a disease factor has been one of vast research and study by the laboratory investigator, the clinician at the bedside, and the student of medical literature in his searching for that which he may set apart as true, from the great mass of articles which have been written and discussed, upon this one symptom, and to day the importance of the role it plays in disease appears to be almost as mooted a question as at any time since the subject was given prominence in research and discussion.

The weight of evidence and investigation leads me to regard a certain increase of temperature as a conservative element in disease. But to believe this, a discriminating line should be drawn between elevated temperature and the various other phenomena attending fever.

The aseptic fever of Volkman we are all familiar with. We observe it following surgical operations which have been cleanly and aseptically performed. It is also known to follow fractures which are subcutaneous, and the element of pyogenic infection is clearly eliminated as a causative factor. These fevers present none of the ordinary phenomena of high tem perature aside from the markings indicated on the thermome ter, and the slight acceleration of the circulation and respiration mark the distinguishing line separating the above described condition, from those cases in which we observe the phenomena of profound toxic infection, with hyperpyrexia and the general depressed and asthenic condition. But it is not possible that there is even a conservative element in the temperature attending the last described condition?

The most dangerous cases of pneumonia or typhoid fever are frequently not those in which the temperature is exceedingly high.

The leucocytosis induced by a rise in temperature is certainly an element in neutralizing and removing disease germs, and is thus conservative, and our effort should not be so much to abolish high temperature as to keep it within those conservative bounds which future investigation may solve.

In discussing the possible conservatism of fever because of the increased number of leucocytes thereby formed, the subject naturally leads to a consideration of the theory of phagocytosis as a curative and immunizing agent in disease of all types, induced by micro-organisms. This, it seems to me, to be wholly a physiological process, yet occuring only in diseased conditions. The cells of the body and the leucocytes either primarily by the process of phagocytosis, take in and destroy bacteria, or because of their action as a secondary result produce alexins in the blood serum, which are antitoxin performing the function of neutralizing poisonous elements. This seems to be almost the unanimous opinion of prominent bacteriologists. The office of the physician is to direct his treatment in the channel that will increase phagocytosis.

I have endeavored, in this brief review, to bring before our minds, for study and consideration, but a few of the topics which might properly be discussed under the subject title, that they may act as reminders to us that nature employs agencies which normally are physiological to bring about a curative or conservative adjustment between disease and health.

But realizing the imperfect working of the natural agencies in many diseased conditions, also that in other pathological conditions nature frequently brings about the best cures, it remains for the careful diagnostician to properly discriminate between these two conditions, and apply his treatment accordingly.

RESUME IN THE FORM OF OUTLINES OF PROF HEKTOEN'S LECTURES ON GENERAL PATHOLOGY, FOR THE GUIDANCE OF BEGINNERS.

BY DR. GEO H. WEAVER.

(Continued from page 241.)

LECTURE III: PATHOGENIC BACILLI.

I. Bacillus Anthracis.
  1. Morphology and cultural peculiarities.
  2. Methods of infection.
  3. Lesions produced in cattle and sheep. Usually infecfection through intestine; hemorrhage; swelling of lymph glands; serous and hemorrhagic infiltration of subserous connective tissue, mucous coat of pharynx and especially of duodenum; splenic tumor; changes in parenchyma of organs. Bacilli in the blood. Also may be infection through the skin; anthrax pustule or diffuse œdema; other general lesions as above,
  4. Lesions in man.—
    a. Infections through skin at site of wounds or by insects. Malignant pustule or diffuse œdema. Pustule tissue is filled with a serous, purulent or hemorrhagic exudate and may become necrotic. Bacilli are especially in outer layer of corium and papillary bodies, may extend to deeper part of corium; vesicles.
    b. Intestinal infection; more rare. Lesions like those in lower animals.
    c. Inhalation infection; spores inhaled in dust. Swelling of tonsils; necrotic areas in air passages; œdema of mediastinum; hepatization and œdema in lungs; sero-hemorrhagic pleuritis; swelling of bronchial lymp glands; acute swelling of spleen; parenchymatous degeneration. Bacilli in blood.
  5. Source of infectious material.
  6. Immunity.
  7. Prophylaxis and disinfection.

II. Bacillus Typhosus.
  1. Morphology and cultural peculiarities.

2. Effects of inoculation of pure cultures into animals; not an infection, but an intoxication.
3. Toxic products.
4. Immunity.
5. Occurrence in man.
    a. Source of infection.
    b. Part of entry.
    c. Things predisposing to infection.
6. Lesions, gross and minute.
   Location of bacilli.
7. Secondary infection.

III. Bacillus Coli Communis.

1. Morphology and cultural peculiarities.
2. Principal differences between it and the B. Typhosus.
3. Occurrence in man.
4. Lesions produced.

IV. Bacillus Influenzæ.

1. Morphological and cultural peculiarities.
2. Effects upon animals,—Toxic but not infectious.
3. Toxic products.
4. Immunity against poisons produced in monkeys.
5. Occurrence in man.
   Bacilli in secretion from nose and bronchi; early, free in mucus, later in pus-cells. Lobular pneumonia of purulent type and abscess of lung. Induration of lung following pneumonia.
6. General and nervous pneumonia due to intoxication.

LECTURE IV.

V. Bacillus Diphtheriae.

1. Morphological and cultural peculiarities.
2. Effects on animals. Most of the experimental animals may become infected artificially. Usually the toxic effects are prominent.
3. Lesions in lower animals resemble in general those in man.
4. Effects of toxins upon experimental animals—similar to those with infection by live bacilli except that a pseudo membrane is not formed.
5. Distribution of bacilli in the body of the infected animal; usually only at seat of inoculation in considerable numbers; in small numbers in adjacent lymph glands, and internal organs.

6. Effects upon man:
   a. Sites of infection:
   Mucous membranes of upper respiratory passages, and by extension to lungs, oesophagus, stomach, middle-ear.
   Mucous membranes of genital tract. (puerperal infection), conjunctiva.
   Surface of wounds.
   b. Distribution of bacilli; in considerable numbers only locally; in small numbers in blood and organs.
   c. Lesions produced.
   (a^1) Locally: Pseudo-membrane: 4 zones: 1. Superficial, with abundant bacteria of various kinds and few diphtheria bacilli. 2. Beneath this with abundant diptheria bacilli in clumps. 3. Wide zone of necrotic tissue without bacteria. 4. Deepest, tissue infiltered with leucocytes.
   (b^1) General.—Lymphatic structures, lungs, kidney, liver, heart, nervous tissues.
7. Modes of infection in man; usually direct or indirect from former case.
8. Bacilli unassociated with disease process; in body of healthy persons; in outer world.
9. Role played by mixed infection; streptococcus most common; pneomococcus in pneumonia.
10. Relation to pseudodiphtheria in scarlatinal and other anginas.
11. Disposition.
13. Prophylaxis and healing.

VI. Bacillus Tetani.
1. Morphological and cultural peculiarties.
2. Effects upon man and lower animals in natural infection—always a mixed infection—little local changes in tissues—inflammation and suppuration caused by accompanying bacteria.
3. Effects upon animals when inoculation with pure culture.
4. Effects produced by toxins.
5. Source of infection—soil and dust.
6. Methods of infection; punctured wounds (wound tetanus), umbilical wounds (tetanus neonatorum), inner

uterine surface (tetanus puerperalis), mucous membrane of bronchi or intestine (rheumatic tetanus).

7. Immunity and healing.

VII. Bacillus Oedematis Maligni.

1. Morphological and cultural peculiarities.
2. Effects of inoculation of pure culture into subcutaneous tissue of susceptible animal; extensive bloody œdema with little gas, and no foul odor; muscles red; spleen and liver enlarged.
3. Location of bacilli; in local tissues; after death disseminated throughout body.

Source of infection; soil and decomposing materials, especially contaminated by faeces.

5. Occurrence in man in wounds with extensive injury to the tissues or puerperal uterus, contaminated with soil or faeces.

"Emphysematous gangrene" usually due to a mixed infection.

LECTURE V.

VIII. Bacillus Tuberculosis.

1. Morphological and cultural peculiarities.
2. Susceptible animals:

a. To natural infection; man, cattle, young swine, monkeys in confinement, less commonly in dogs, and cats.

To artificial infection; guinea-pigs most susceptible, rabbits, field mice, cats; with large quantities of bacilli, white mice, rats, dogs and canary birds.

3. Methods of successful artificial inoculation; cutaneous inoculation, injection into deeper tissues, and into serous cavities, by feeding with infected food; by inhalation.
4. Methods in natural infection; in skin (lupus and anatomical tubercle), by inhalation (dust), by food in intestinal mucous membrane (infected meat, milk), germinal (?), intrauterine.
5. Sources of infecting material; secretion or discharge from a former case (sputum, pus, etc.), milk from tubercular cow.
6. Effects of toxic products of the bacilli—Tuberculin.

a. In healthy individuals.

        b. In tubercular individuals.
    7. Primary histological lesions produced.
        a. Tubercle-structure and method of formation.
        b. Changes without typical tubercles.
    8. Principal affection in man.
        a. Primary affection always local.
        b. Secondary dissemination.
    9. Predisposition.
    10, Immunity and Healing.
    11. Secondary Infections.

IX. Bacillus of Syphilis.
    1. Morphological peculiarities.
    2. Man only susceptible to infection.
    3. Modes and location of infection.
        a. After birth.
        b. Germative, conceptional and intrauterine.
    4. Lesions produced.
        a. Initial lesion.
        b. Secondary lesions.
        c. Tertiary lesions.
        d. Congenital.

X. Bacillus Leprae.
    1. Morphological peculiarities.
    2. Man only susceptible to infection.
    3. Modes of infection.
    4. Experimental evidence of infectious nature.
    5. Lesions in man; in a. skin; b. nerves.

LECTURE VI.

XI. Bacillus Mallei.
    1. Morphological and cultural peculiarities.
    2. Susceptible animals.
        a. Natural infection; horse, man.
        b. Artificial infection; guinea-pigs, field-mice, sheep, young dogs, goats, cats. Cattle, field-mice, rats are immune.
    3. Lesions produced;
        a. In horse:
    (*a*¹) In skin (farcy).
    (*b*¹) In mucous membrane of nose.
    (*c*¹) In viscera.
        In acute cases lesions are of a suppurative character;

in chronic cases there is more proliferation of connective tissue.

- b. In guinea pigs.
- c. In other experimental animals.
- d. In man.

4. Point of infection.
5. Origin of infectious material.
6. Products of baccilli (Mallèin).
   Its action.
7. Methods of diagnosis.
8. Immunity and Healing.

XII. Bacillus Pestis Bubonicae.

1. Morphological and cultural peculiarities.
2. Susceptible animals—mice. rats, guinea pigs, rabbits.
3. Lesions in animals.
   Bloody oedema at point of inoculation, swelling of lymph-glands, hemorrhage in abdominal wall, congestion of internal organs, bacilli in blood and all the organs, tubercle-like nodules in spleen. In protracted cases abscess at point of inoculation.
4. Lesions in man.
5. Methods of infection.
6. Immunity and Healing.

XIII. Spirillum Cholerae Asiaticae.

1. Morphology and cultural peculiarities.
2. Effects upon experimental animals.
3. Effects upon man.
4. Toxic products of spirilla.
5. Sources and means of infection.
6. Lesions produced in man.
7. Bacteriological diagnosis.
8. Immunity and Healing.
9. Prophylaxis.

XIV. Spirillum of Relapsing Fever.

XV. Actinomyces.

The Corpuscle.

EDITORS.

P. A. WAKEFIELD. Editor-in-Chief.
J.P. SEDGWICK, B. S., Secy. and Treas.
J. V. WHITE, 1900. N. W. JUDD, A. B. W. MURRAY, 1900.

Communications relative to advertisements and subscriptions ($1.00 yearly to undergraduates) should be addressed and remittances made by money order, draft or registered letter, to C. E. Judd, Business Manager, 93 Flournoy St., Chicago.

Ruby Red and Black: Colors of Lake Forest University. Orange: Color of Rush Medical College.

EDITORIALS.

As a frontispiece for this issue we present the likeness of the late Dr. Ellsworth Daggett Whiting, whose death recently occurred at his home in Aurora, Illinois. Dr. Whiting will be remembered as a former editor of the Corpuscle, and as an interne in the Presbyterian Hospital. The news of his death came as a sudden blow to his friends in Rush. The Corpuscle, in behalf of all his friends and associates here, extends sympathy to his bereaved family. In our next issue we shall publish a more extended biography.

GREETINGS.

With the Commencement festivities another class passes from our portals and another quota of young men are added to the ranks of the medical profession. It is a time that comes but once in a man's lifetime, a time that we will all look back upon with longings—the school days which were our happiest days of youth.

The Corpuscle extends best wishes to each member of the graduating class. "May you live long and prosper." The Corpuscle also extends a welcome to members of former classes, alumni who have come back to their Alma Mater to, for a few days, forget the cares of their busy lives, and refresh themselves in the old haunts of their student days, and, with us, around the annual banquet board, welcome the members of the class of '98 into the alumni fold.

THE AMERICAN MEDICAL ASSOCIATION.

The summer gathering that will be of most interest to the physician and surgeon this year will be the meeting of the American Medical Association in Denver, June 7-10. Not alone is there an excellent program replete with scientific data for the medical man, but a round of profitable and beneficial sightseeing for all who choose the time of this meeting for their summer outing. Have you once seen the snow-capped Rockies? You will not need urging to go again. But he who has not looked upon these scenes of grandeur has an indescribable treat before him. There will be a Journal Special from Chicago, June 4, and low rates—one fare plus $2.00 for the round trip, with diverse routes to choose from (see advertising pages), and stop-over privileges en route, which offer inducements not often met with, besides a thirty-day limit in which to wander o'er the mountains. Go to Denver.

RUSH MEN AND THE WAR.

As in the days of yore, the colleges are furnishing many volunteers for the front: Leland Stanford, Junior, thirty; Yale, Harvard and Columbia, their quota, while the lesser colleges are not in the background; Jefferson has tendered the services of the graduating class, and the long list published in our last issue, students and professors, places Rush in the front rank. We are proud of our quota of men, all men who stand high in the esteem of their fellows, and whom we know will do honor to their Alma Mater. Rush has been especially honored in the wise choice made in appointing Professor Senn Assistant Surgeon-General of the Army of the United States, with the rank of Lieutenant Colonel. The medical and lay press throughout the land has spoken with approval of this choice, and while the appointment reduces Dr. Senn's rank, he being a colonel of the Illinois National Guard, it enables him to do the thing he most wishes to do in his patriotism, go to the front. Rush and all Rush men are today proud of the men representing us in the present war.

ADVICE TO YOUNG PRACTITIONERS.

The following extract from "The Stark Munro Letters" we consider worthy of reproduction. To those who have not read the work we commend it as being well worth consideration:

"Above all, I learned a fact which I would whisper in the ear of every other man who starts, as I have done, a stranger among strangers. Do not think that practice will come to you. You must go to it. You may sit upon your consulting-room chair until it breaks under you, but without purchase or partnership you will make little or no progress. The way to do it is to go out, to mix everywhere with men, to let them know you. You will come back many a time and be told by a reproachful housekeeper that some one has been for you in your absence. Never mind! Go out again. A noisy, smoking concert, where you will meet eighty men is better for you than the patient or two whom you might have seen at home. It took me some time to realize, but I speak now as one who knows.

"But—there is a big 'but'in the case. You must ride yourself on the curb the whole time. Unless you are sure—absolutely sure—that you can do this, you are far best at home. You must never, for one instant, forget yourself. You must remember what your object is in being there. You must inspire respect. Be friendly, convivial—what you will—but preserve the tone and bearing of a gentleman. If you can make yourself respected and liked you will find every club and society that you join a fresh introduction to practice. But beware of drink! Above everything, beware of drink! The company you are in may condone it in each other, but never in the man who wishes them to commit their lives to his safe keeping. A slip is fatal—a half slip perilous. Make your rule of life and go by it, in spite of challenge or coaxers. It will be remembered in your favor next morning.

"And of course I do not mean merely festive societies. Literary, debating, political, social, athletic, every one of them is a tool to your hands. But you must show them what a good man you are. You must throw yourself into each with energy and conviction. You will soon find yourself on the committee — possibly the secretary, or even in the presidential chair. Do not grudge labor where the return may be remote and indirect. Those are the rungs up which one climbs."

MEDICAL STUDY IN NEW YORK STATE.

The State of New York requires that all persons matriculating later than Jan. 1, 1898, must study medicine for four years. Upon entering the study of medicine, all matriculates must present the equivalent of a thoroughly graded high school course, and on no account shall credit be given for previous study taken in other than a registered medical college. Work done in a university course preparatory to medical study shall receive no credit. Form of application for registration of Medical School with the University of the State of New York is as follows:

This certifies that .... applies for registration with the regents of the University of the State of New York, as meeting the minimum graduation standard fixed by statute for New York medical schools as follows: Candidates for graduation must—

1. Be at least 21 years of age.
2. Be of good moral character.
3. Hold the New York State medical student certificate, or equivalent, as specified in New York laws of 1896.
4. Have studied medicine at least four full years of nine months each, including four satisfactory courses of at least six each, in four different calendar years, in accredited medical schools, unless matriculated before Jan. 1, 1898, and graduated before Jan. 1, 1902, in which case the increase in medical study from three to four years does not apply.

No allowance whatever is made in the period of study for work not done in an accredited medical school. Graduates in dentistry, veterinary medicine, and pharmacy, and from other professional and techical schools, under no circumstances receive M. D. degrees in less time. This law does not meet the purpose for which it was intended, and a bill was passed in the last legislature to modify it, but was unsigned by the governor.

The Secretary of the University, in his report to the Regents of the University of the State of New York (Examination Bulletin, No. 15, November, 1897), says: "I believe the greatest service we can render to the professional school, as well as to the college, is to recognize the importance of a fuller preparation by the allowance of a year in the professional course to students who are willing to add to the high school course required by law, four years more of general college training. Certainly it cannot be considered a lowering of the standards if we accept four years of college work as the equivalent of one year in the professional school, even then providing that these four years must have included a satisfactory training in the subjects specially needed for the professional course. While it probably is unwise to require by statute that every candidate for admission to a professional school shall have had more than a high school education, it certainly is highly desirable by every proper means to induce as many as possible to complete their general education with the college course instead of stopping half way on graduation from the high school."

The leading medical colleges in Chicago have discussed the advisability of conforming with the requirements as given above, but have decided it would be unwise to make such changes, and all agree that one having completed a college course preliminary to medical study should receive in the medical college one year's credit for such work done.

MEDICAL EXCURSION IN JUNE—DENVER TO SALT LAKE CITY. The Medical Excursion in June will leave Denver for Salt Lake City—The Zion of the new world—on the last day of the meeting and the two successive days, via the Rio Grande Western Railway in conncection with the D. & R. G. and Colo., Mid. lines. The rate will be but $18.00 for the round trip offering a trip of 1500 miles through the Rocky and Wasatch Mountains. No European trip of equal length can compare with it in grandeur or wealth of novel interest. Salt Lake City and vicinity is one grand sanitarium. The great Salt Lake or Dead Sea of America with its magnificent bathing resort, the Hot and Warm Springs, Drives, Parks, Canyons and Reserves are all located in or about the city. Send 2 cents to F. A. Wadleigh, Salt Lake City, for copy of pamphlet. One constantly recalls with longings the beautiful vistas along this route, a trip one never tires of making times and times over.—ED.

Alumni Department.

JAMES B. HERRICK, A. M., M. D., Editor.

MEMBERSHIP IN THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE is obtainable at any time by graduates of the College, providing they are in good standing in the profession, and shall pay the annual dues, $1.50. This fee includes a subscription to The CORPUSCLE for the current year. This journal is the official organ of the Association.

Dues and all communications relating to the Association should be sent to
JOHN EDWIN RHODES, M. D., Sec'y. and Treas., 34 Washington St., Cihcago.

In our issue of May, page 300, we intended to mention the marriage of Dr. James Warren Van Der Slice, '93, but the types made us say Van Dershie.

Dr. Paul Allen Fox, was married to Miss Lillie Walters, Oregon, Wis., May 10, 7:30 p. m.

Dr. Jerome J. Tuthill, 1943 W. Harrison St., Chicago, died May 11, aged 34 years. The Doctor was graduated from Rush in 1884.

Dr. J. McDonald Scott, formerly of Elysian, Minn., is now practising at 381 W. Van Buren St., and residing at 116 S. Center Ave., Chicago.

Dr. H. R. Hammond, '94, was married to Miss Bessie M. Hogg, Paisley, Canada, Tuesday evening, May 3, at the residence of Rev. Dr. Noble, 532 Washington Boulevard. The ceremony was private, Miss Belle Hogg, sister of the bride, acting as maid of honor, and Dr. W. H. Hunter as best man. Dr. and Mrs. Hammond will be at home at their residence, 1630 West 12th St., Chicago, after May 10.

Dr. E. L. McEwen, '97, ex-editor of the CORPUSCLE, was married to Miss Mary Gilruth, Davenport, Iowa, Saturday, April 23, at high noon. The ceremony was performed by Dr. Dilman Smith, a former classmate of the groom. It was a quiet, home wedding, and but a few relatives and intimate friends of the family present. Chicago will be their future home. Both the groom and the bride are graduates of Chicago medical colleges.

Dr. S. K. Hissom, '96, writes from Germany, requesting the address of any one who can sell him a class pin of the Class of '96. He says: "Things in the University here are moving along finely, but to my taste not as comfortably as in 'Old Rush' " Any one who can give the Doctor the desired information may address him, Postamt 7 postlagerud, Berlin, N. W., Germany.

Dr. Wm. H. Maley, '97, writes from Galesburg, Ills.: "Every step I have taken from Commencement day has been crowned with success. * * * Dr. Hatch, '97, Prairie City, twenty-three miles south of here, is doing nicely. * * * Dr. Longbrake, '97, is located here and doing well. I often hear from Dr. A. B. Montgomery, '97, at Reynolds, Ills. He, too, is prosperous." Dr. Maley is in partnership with Drs. Aldrich and Bradley, of Galesburg.

Dr. E. S. Goodhue, the founder of the CORPUSCLE, paid Rush a visit a few days ago. The Doctor, a most affable gentleman, gave us much interesting data of the early days of the CORPUSCLE. He is en route East, to place with his publishers the manuscript of a book on Hawaii, and speaks quite enthusiastically of the hopes for annexation. He is Government Physician and Medical Superintendent of Malulani Hospital, Wailuku, Maui, Hawaiian Islands, and anticipates meeting many old friends among alumni present Commencement week.

Dr. William Meacher, '62, died at Portage, Wis., April 22, aged 65 years. Until the age of 22 he received less than three years' schooling altogether, and then with commendable ambition, set about educating himself. He began his studies at home, his time for that purpose being necessarily limited by the demands of work to support his family. After two years thus spent, Dr. Meacher mortgaged his little forty-acre farm in Marcellon for $250, and with this money was enabled to pursue a brief course of study at Rush Medical College. In the following summer he located in Waushara County, but later gave up the plan of practicing there, sold his farm for $500, paid his former loan, and with the balance defrayed the expenses of another term at Rush, and in 1862 was graduated. He was commissioned assistant surgeon of the Sixteenth Wisconsin Volunteer Infantry, and later served for four months as contract surgeon. He was at the siege of Atlanta and marched to the sea with Sherman.

Dr. Price C. Beaghler, '95, Middle Point, Ohio, died from inflammation of the brain resulting from an abscess of the ear, March 23. He was born in Mendon, Ohio, April 5, 1869, was graduated from the Normal School in 1889, attended college at Albion, Mich., and Wooster, Ohio, and was graduated from Rush Medical College in May, 1895. He at once entered the practice of his chosen profession with zeal and marked ability, taking up the practice of medicine where his father had but recently left it. While Dr. Beaghler was busily engaged in a successful practice of medicine he did not neglect the needs of his spiritual nature, and dates his religious experience from a revival held at Albion College in the winter of 1889-90. While attending that college he united with the Methodist Episcopal church. He was an active member of the Epworth League, and took a great interest in and was a valuable assistant in the various interests and enterprises of the church of his choice. He was a member of the Knights of Pythias, where his influence was always exerted for the advancement and betterment of his fellow Knights. His was a character of rare richness and beauty, and was one of the very few who could say with the rich man who came to the Savior, "all the commandments have I kept from my youth up." Dr. Beaghler realized that death was at hand, called his mother to his side and said: "Mother, dear, I must leave you. I must die; nothing can save me now." While we, as relatives and friends, drop the silent tear at his bier to-day, we do so with the conscienceness that one noble in deeds and purposes has been transplanted from earth to the Kingdom of our Lord, there to go out no more for ever. And though we look up through our tears to Him who is merciful and just, let us say, "Thy will be done."—*Exchange.*

PROGRAM.

The following program has been arranged for the entertainment of the Alumni of Rush Medical College during Commencement Week, May 23, 24 and 25, 1898:

MONDAY, MAY 23.

10:00 A. M.—Clinic in General Medicine in the upper amphitheatre of the college building, by Prof. Henry M. Lyman.

11:00 A. M.—Clinic in Gynecology, with operations, by Prof. J. H. Etheridge.

2:30 P. M.—Clinic in Skin, Venereal and Genito-Urinary diseases, by Prof. James Nevins Hyde.

4:00 P. M.—Class day exercises of the class of '98, in the upper amphitheatre.

8:00 P. M.—Theatre party to see the beautiful play "Shenandoah," at McVicker's Theatre. Tickets can be obtained at the box office of the theatre. The best seats in the house have been reserved for our party and will be held for us up to 4:00 o'clock P. M., Monday. Say at the box office that you wish to be seated with the "Rush Alumni party."

TUESDAY, MAY 24.

At 9:30 A. M. will occur the annual Scientific meeting of the Association, in the upper amphitheatre. The following program has been provided:

1. Dr. Lloyd M. Bergen, '89, Highland Park, Ill.; "The Dietetic Management of Diarrheal Diseases in Infancy."
2. Dr. John A. Robinson, '80, Chicago, Ill.; "Modern Methods of Diagnosis."
3. Dr. F. W. Epley, '77, New Richmond, Wis.; "Hygiene of the Maternal Font."
4. Dr. Wm. P. McGovern, '82, Cedarburg, Wis.; "Some Diseases Common to Man and Animals."
5. Dr. C. D. Wescott, '83, Chicago, Ill.; "What Should the General Practitioner Know about the Eye."
6. Dr. Thomas Fitzgibbon, '82, Milwaukee, Wis.; "Metritis."
7. Dr. A. E. Baldwin, '78, Chicago, Ill.; "Some Deformities of the Face and How to Prevent Them."

Immediately following the Scientific program, the annual business meeting of the Association will be held.

At 1:00 P. M., in the Laboratory Building, there will be a demonstration of Surgical Anatomy on the cadaver by Prof. Arthur Dean Bevan, in the dissecting-room.

The laboratories of Chemistry, Histology, Bacteriology, Experimental Physiology and Materia Medica will be open and subjects of special interest will be demonstrated.

2:00 P. M.—Surgical clinic by Prof. Senn.

We regret that the reception to the graduating class and Alumni at the residence of Dr. Senn, 532 Dearborn avenue, announced for Tuesday will not be given, owing to the absence of Dr. Senn on account of the war.

WEDNESDAY, MAY 25.

10.00 A. M.—Surgical clinic by Prof. John B. Hamilton, upper amphitheatre.

2:00 P. M.—Graduating exercises of the class of '98 at Central Music Hall. The Doctorate address will be delivered by George S. Burroughs, D. D., LL. D., President of Wabash College, Crawfordsville, Ind. Subject: "The Physician as a Social Factor."

8:00 P. M.—Reception and joint banquet of the Faculty and Alumni, at the new Grand Pacific Hotel, with the following program:

J. R. Barnett, M. D., '68, Presiding.

1. "At the Front"....................J.R. Barnett, M. D., '68.
2. "The Fledgelings"....................R. W. Webster, '98.
3. "The Medical Profession from a Lawyer's Standpoint" Hon. T. A. Moran, LL. D.
4. "The College and the Medical School" Pres. G. S. Burroeghs, D. D., LL. D., Wabash College.
5. "Faith and Physic".............Rev. P. S. Henson, D. D
6. "Rush in 1882"
7. "Rush in the Future"..........President Wm. R. Harper.

CONCERNING OURSELVES.

The editorial Board have decided to issue THE CORPUSCLE hereafter throughout the year, thus making the volume comprise twelve numbers. Heretofore there seems to have been no definite rule concerning the issuance of summer numbers, and subscribers have not known wheher to expect them or not. The volume will end with the June and begin with the July number, thus beginning the volume at a time when most Alumni pay their annual dues. We have much interesting matter in view besides full reports of the commencement week festivities to appear in early issues. This announcement will be read with pleasure by all members of the Alumni Association, and tend to strenghen the Association, which all alumni should join on leaving college. Alumni should promptly remit their dues for the coming year, to the secretary, Dr. J, E. Rhodes, 34 Washington street, Chicago, that no issue of the CORPUSCLE be missed.

ITEMS OF INTEREST.

Dr. W. Hampton Caldwell, of Indianapolis, was a recent visitor at Prof. Hamilton's Saturday clinic.

R. L. Whitley, '98, has located at Osage, Iowa.

The *Inter Ocean* of May 2, contained a two-column sketch of Prof. Senn with quite a good cut of the doctor.

A. F. Stevenson, Jr., '98, will sojourn in Europe until August.

Fred G. Murray, '00, may be found at 623 S. Fourth Street, Cedar Rapids, Iowa, during the summer.

J. A. Purtell, '99, will be at Monches, Wis., during the summer vacation.

Wm. S. Wilcox, '00, will summer at his home, Weyauwega, Wis.

C. E. McCauley's summer address will be Royal Center, Ind.

I. N. Shaff, '00, combines medicine with pharmacy. He practices pharmacy at Cisco, Ills.

B. Miller, '00, has gone to his home, Peru, Ills., for vacation.

F. O. Krumme, '00, may be found at Fon du Lac, Wis., during the summer.

E. H. Iden, '00, will be at home, Le Roy, Ills., during the summer vacatien.

J. H. McHenry, '00, took a trip to Indianapolis and Louisville, enroute home for the summer.

He—"What kind of medicine does a man take for a scolding wife?"

She—"Why, elixer."—*Druggists Circular.*

Prof. (to class in surgery)—"The right leg of the patient, as you see, is shorter than the left, in consequence of which he limps. Now what would you do in a case of this kind?"

Bright Student—"Limp too."—*Druggists Circular.*

"It affords the *Record* much pleasure to announce that the chair of ophthalmology and otology in the Rush Medical College, recently vacated by the respected and revered Dr. E. L. Holmes, will be filled by F. C. Hotz, of Chicago. Dr. Hotz's name is too well known to require any introductory or eulogistic remarks from the *Ophthalmic Record.* His reputation extends wherever ophthalmology is know, and in inviting him to occupy this chair, Rush Medical College has honored itself." —*Ophthalmic Record*, May.

At a recent meeting of the Physicans Club, Chicago, Prof. Senn discussed "The Surgeon on the Battlefield", Prof. Hamilton, "Climatology of Cuba as a Factor in the Present War", and Prof. Hyde, "Probable Influence of the Modern Small Arm Projectile on Military Surgery." The views of Prof. Hamilton have been widely quoted in the lay press.

Willis, '00, left for Denver a few days ago. He will combine business with pleasure, making a stay of two or three months.

F. A. Dolan, '99, will spend the summer at home, Missouri Valley, Iowa.

Dr. P, P. Doane, '95, has removed from 1723 Belmont Ave., to 385 N. State St., Chicago.

P. C. Rietz, '98, will enter on his duties as interne at the Chicago Polyclinic, 176 E. Chicago Avenue, June 1.

J. V. White, '00, and J. P. Sedgwick, '99, of the CORPUSCLE staff left for their respective homes with the completion of their examinations.

Mark Evans '99, and Charlie Shultz,'00, have received good positions in the Presbyterian Hospital for the summer vacation.

Prof. Hektoen presented reprints of the Outlines of Pathology, and of his introductory lecture, "Growth of Medicine" to the sophomores, recently.

The doctor stood at the bedside of his latest victim, who owed him $100. The victim started up with a sudden strange light in his eyes and exclaimed: "Ah, its all bright ahead!' "That's all right," said the M. D., grinding his teeth, "You'll see it blaze in a minute."—The *Sequoia*, Stanford University, Cal.

ALL RIGHT AND REGULAR.

Neighbor—I've some awful bad news to tell ye, Mrs. Tubbs. Y'r husband was blowed up in the dynamite explosion this mornin'. and y'r family doctor, who was talkin to him at the time, got blowed up too. Mrs. Tubbs—Dearie me! Well, I'm glad the doctor was with him, 'cause now there won't need to be no inquest.

Prof. Bouffleur is quoted in the *Canada Lancet* as follows: "The local conditions should be given nearly as much, if indeed not equal, prominence with the general condition in our decision of "When to amputate." When in doubt, the wise surgeon, like the wise navigator, proceeds cautiously, and only when he is sure that he is right does he push boldly ahead. When applied to amputation, this means, to my mind, that when the line of destruction is positive and known, with general conditions permitting, we should amputate, but when the vitality or usefulness of the part, or the condition of the local tissues, is questionable even with favorable general conditions, we should postpone our mutilating operation until we arrive at a safe conclusion."

Of Prof. Lyman, the *Canadian Practitioner*, April, says: "Henry M. Lyman, of Chicago, an advocate of ether, says that the risks from ether increase with age, on account of the tendency to bronchial catarrh, to a degree which is not conspicuous with the more potent agent chloroform, and cites cases of edema with lingering death from the administration of ether, one of edema of the lungs and pleura, operation tenotomy, administration for twenty minutes, amount 3 ℥ becoming conscious and dying two hours later; another dying four hours after cessation of administration the post-mortem examination revealing edema of the membranes of the brain and of the lungs. Also a lingering death in a hard drinker, from chloroform ⅓ oz., time 1½ minutes; slept twenty minutes, was aroused, and died one day and a half after operation."

ETIOLOGY AND TREATMENT OF CRIMINALITY.—Prof. Brower (*Medico-Legal Jour.*, March), gives the principal etiologic factors in crime as vicious parentage, bad environment, intemperance, a constant increase in the urban population, unrestricted emigration, and the unreasonable manner in which our laws are administered. By vicious parentage he means not only a criminal, but a neurotic parentage, the product of epilepsy, hysteria, alcohol, narcotic poisons, etc. He says the remedy should be modification of the marriage license. The vicious parentage should be avoided by demanding evidence that both the contracting parties are in good health, not alcoholic nor narcotic inebriates, have not epilepsy, tuberculosis, nor active venereal disease, and are not insane, criminal nor paupers.

Prof Senn is quoted in the *Indiana Medical Journal*, April, as follows: "I am free to confess that I have never been able to muster my courage to attack the skull of a poor microcephalic child, because I have always regarded the operation as useless in promoting brain development. The responsibility of the surgeon is not limited to the defective mental development of the child nor the importunity of the parents in demanding an operation at all hazards. The surgeon should stand guard over such a charge, mindful of the limits of surgery. Have we a right to estimate human happiness? The driveling idiot has many enjoyments that you and I know nothing about. His responsibilities to God are limited, and his existence on earth is a long, happy dream, which only ceases when the soul leaves the imperfect body and returns whence it came, where mental distinction is unknown."

Harry Gideon Wells, formerly of this city, has just won enviable honors in the Rush Medical School, the medical department of the University of Chicago. He is in the senior class and, in the competitive examination for positions on the house staff of the celebrated Cook County Hospital, he stood second, securing next to the leading place. There were three hundred candidates, many of them praticing physicians of Chicago and vicinity. Dr. Wells will begin his duties in the hospital June 1. He has just been awarded the degree of Master of Arts by Lake Forest University for excellence in thesis, after extensive original research, on the thyroid gland. He is the son of Romanta Wells, formerly of this city and Wethersfield and is a graduate of Yale in the scientific school class of '95.—*Register*, New Haven, Conn,, April 25.

PREFER WAR TO BEING DOCTORS.

"Sullivan, Evans, Myers, Vilas" were the names called out morning after morning to the class in special surgery at Rush Medical College. An answering "here!" came from each of the other sixteen young medics who belonged to the graduating class, but the faces of the four were not to be seen. For a few days no comment was made on the absence of the young men, but when a week had elapsed and a long string of ugly absent marks detracting from their fine average had been marked opposite their names in the rollbook Prof. Stahl looked around with a slight frown.

"Where is Sullivan?" he asked. "Does any one know?"

For a moment there was silence; then came a voice from among the sixteen:

"Gone to the war."

"Evans?" came the query next from the professor.

"Gone to the war," came the answer.

"Myers?"

"Gone to the war."

"Vilas?"

"Gone to the war."

The frown disappeared from the instructor's face, the deadly lead pencil was reversed in his fingers and in a moment the rubber at the top had erased a long row of absent marks in the rollbook. When the patriotic diciples of Æsculapius return to take their places in the class they will find that they have not suffered through the readiness with which they responded to the country's call.—Chicago *News*, May 2.

At his last lecture hour Prof. Hamilton presented the juniors with a number of reprints of articles that have appeared from his pen from time to time. These reminders are always valued additions to the student's library.

The CORPUSCLE extends sympathy to Lowenthal, '99, in the death of his sister, May 7. Lowenthal was among the successful ones at the recent state board examination and is fitting up offices for practice.

THE AMERICAN MEDICAL ASSOCIATION.—For the Denver meeting, June 7-10, the Western Passenger Association has granted a rate to Denver and return of one-half fare, plus $2.00, thirty-day limit, from Chicago, St. Louis and intermediate points. Tickets on sale June 2, 4 and 5 east of, 5 and 6 west of the Missouri River. Announcements of other rates, etc., will be made in *The Journal of the Association.*

HONOR FOR PROF. SENN.

Colonel Nicholas Senn was the man in camp honored yesterday by President McKinley. He was made assistant surgeon-general of the army of the United States to rank as a lieutenant colonel. The appointment pleased him, largely because he is a natural born soldier. The pay for a year will be about as much as he earns in a week's regular practice. This makes no difference. He is a patriot and the kind of man who does not see how a money consideration can have anything to do with love of country. The honor conferred by the President reduces his rank, since he is a full colonel in the national guard, but he wanted to go to the front, and he is now able to do it. He also thought he might be ranking officer of the post, being the only lieutenant colonel of the U. S. army in this section.—*Times.Herald*, Chicago, May 10.

SAYINGS HEARD BY FRESHMEN.

D.—Secondly, as I show you here.

H.—Produces very happy results.

B.—On either side.

S.—I offer this merely as a suggestion.

P.—Practically and theoretically.

N.—Thats right. Thats right.

P.—Good morning, gentlemen.

Z.—Well really I don't know. Can any one tell us about that?

S.—It's unfair to keep such discoveries from the profession.

THE ELGIN TRIP.

About fifty of the Seniors availed themselves of the opportunity to visit the Asylum for Insane at Elgin, of which Prof. J. B. Hamilton is Superintendent. Street cars in waiting at the depot took us to the hospital, where we were met and royally entertained. The first in order was luncheon. Then came a few spare moments, during which some of the bad boys strolled out to smoke a cigarette. Then came Prof. Brower's clinic; most interesting and well displayed material making this an exceptionally fine feature. Dr. Brower had a chart outlining the various forms of insanity and of each there were one or more living examples. After about two hours spent thus the crowd was divided, ten or twelve going in each division, headed by one of the attending men. The wards were all visited, and everywhere cleanliness was a marked feature. After the wards and the infirmary had been visited, time remained in which we visited Prof. Hamilton's library, which is one of the best and most extensive of its kind. This completed the program. Every one enjoyed the visit to Elgin, and on the return trip a vote of thanks was given to Prof.

Brower and Doctors Patton and Hall, and a committee was appointed to draw up resolutions thanking Prof. Hamilton and his corps of assistants. The committee send to him the following:

CHICAGO, May 12, 1898.

PROF. J. B. HAMILTON, M. D., LL. D., Supt. Illinois Northern Hospital for the Insane, Elgin, Ill.

Dear Doctor:—The graduating class of Rush Medical College desires, through its Committee, to express its high appreciation of the reception tendered by you and your staff, Drs. Jenks, Foote, Foley, Kahn and Kearney. All were favorably impressed by the neatness and evident order prevailing throughout the institution, and by the kindness and attention shown the class. By the Committee: C. H. SEARLE, M. P. FENELON, H. E. ALLEN, F. B. HOLLENBECK.

PUBLISHER'S NOTES.

You get a consensus of what other people think by reading *Public Opinion*, which each week contains the leading views as expressed by leading papers on all topics.

Outing for May is one of the finest numbers of this popular magazine that ever left the presses. Everything about it well suits the "Merry Month," full of the healthful sunshine and merry sport of spring.

A paper on Iowa College is of interest in the May *Midland Monthly*, while well illustrated papers on "The Tragedy of the Maine" and "Cuba's Capitol," "A Trip to Havana" are of peculiar interest at this time.

American Resorts for April, contains much of interest of the dark races of the southwest, their pottery, mode of life, the old missions, etc.

The Spanish sketches by Pierre Loti, which *The Living Age* is printing in an excellent translation made for its pages by William Marchant, exhibit the picturesque descriptive powers of that charming writer at their best. One sketch in the first group gives a glimpse of the Queen Regent of Spain. They are, at this time, of the sort that interest the tired brain when nothing else will.

A five grain Antikamnia tablet prescribed for patients before starting on an outing, and this includes tourists, picknickers, bicyclers and, in fact, anybody who is out in the sun and air all day, will entirely prevent that demoralizing headache which frequently mars the pleasure of such an occasion. This applies equally to women on shopping tours, especially to those who come home out of sorts, with a "sightseer's headache."

When one travels one patronizes the best line whether the journey be long or short. The long journeys are made short when one chooses the "perfect passenger service" of The Chicago and Alton whose trains, veritable palaces on wheels, make it indeed America's greatest railroad." A trip to St. Louis, to Kansas City, or from St. Louis to Kansas City and beyond, may thus be made as comfortably as if you were in your own home. Through sleeping-cars, exquisitely upholstered, and free chair cars, whose luxuriousness makes one regret the journey's end, with the courtesy and attention of the employees (one notices this especially), make this the most direct and desirable route for those attending the meeting of the American Medical Association at Denver, June 7-12. Any agent, or James Charlton, G. P. A., Monadnock Bldg., Chicago, will take pleasure in answering any inquiries as to rates, etc.